

DEPARTMENT OF THE INTERIOR

FRANKLIN K. LANE, Secretary

UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, Director

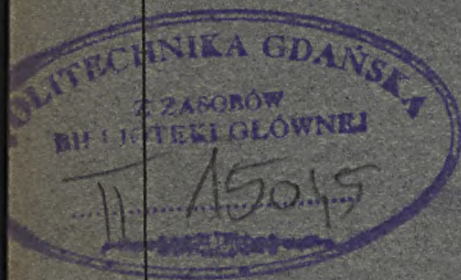
BULLETIN 646

SPIRIT LEVELING IN NORTH CAROLINA

1896 TO 1914, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

Work done in cooperation with the State of North Carolina
in 1896 and from 1902 to 1910, inclusive



WASHINGTON

GOVERNMENT PRINTING OFFICE

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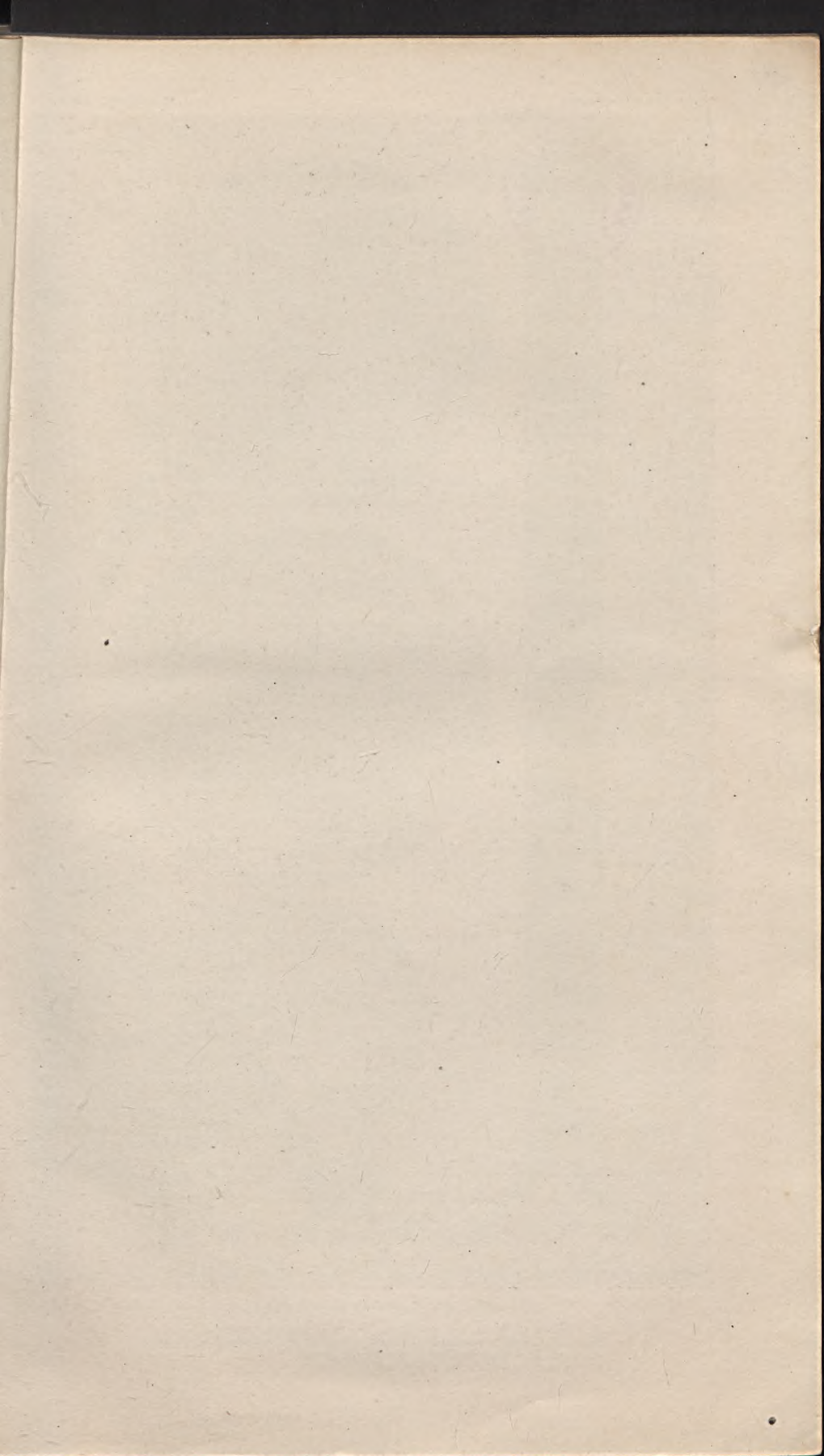
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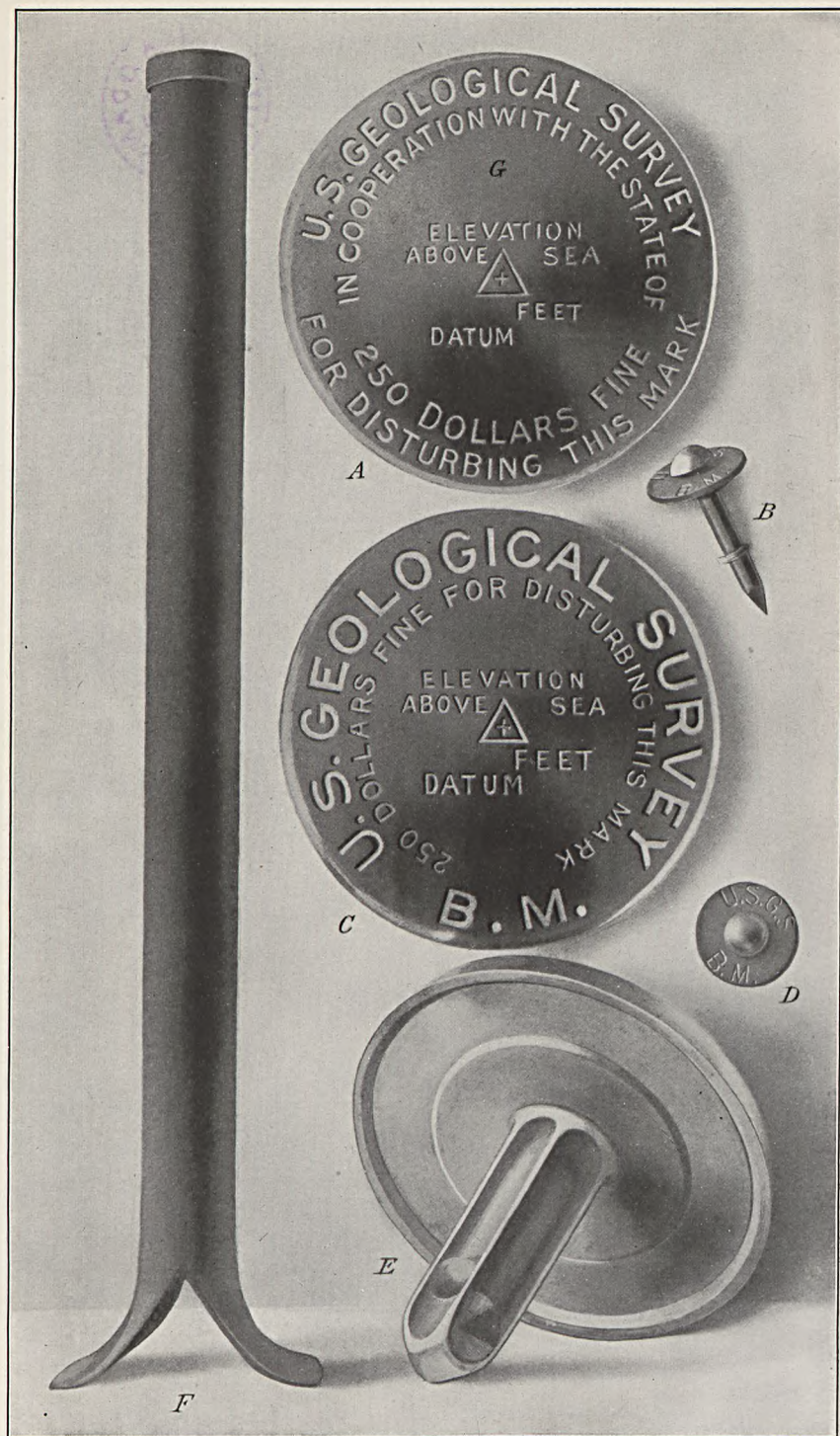
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GEOLOGICAL SURVEY BENCH MARKS.

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



SPIRIT LEVELING IN NORTH CAROLINA, 1896 TO 1914, INCLUSIVE.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Cooperation.—The State of North Carolina contributed financially to the work in 1896 and from 1902 to 1910, inclusive.

Previous publication.—That portion of the results of spirit leveling in North Carolina previously published in Bulletin 441, containing descriptions and elevations of bench marks established from 1896 to 1909, inclusive, and based on the 1903 adjustment, has been corrected to agree with the 1912 adjustment of precise leveling of the United States Coast and Geodetic Survey, and is here republished, together with the results of spirit leveling by the United States Geological Survey in North Carolina since 1909.

Personnel.—The field work from 1896 to 1906, inclusive, was done under the direction of H. M. Wilson, geographer, and that from 1907 to 1914, inclusive, was done 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 headings of the several lists to the respective levelmen. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified as precise or primary, according to the methods employed in their determination. The former are determined by lines of levels run either in both forward and backward directions or by simultaneous double-rodged lines, a high-grade instrument being used and special precautions being taken in observations and reduction to correct errors and make the line continuously good throughout. The latter or primary levels are determined with the Y level, precautions being taken against only the principal errors and the levels being run mostly in circuits of single lines. The allowable limit of error observed on the precise work already done by the Geological Survey in this State is represented

in feet by $0.03 \sqrt{D}$ and that for the primary work by $0.05 \sqrt{D}$, in which D is the length of circuit in miles.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (*C* and *E*, Pl. I), $3\frac{1}{2}$ inches in diameter and $\frac{1}{4}$ inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (*F*, Pl. I), used where masonry or rock is not available, consists of a hollow wrought-iron post $3\frac{1}{2}$ inches in outer diameter and 4 feet in length. It is split at the bottom and spread out to a width of 10 inches in order to give a firm bearing on the earth, and is set about 3 feet in the ground. A bronze or aluminum-bronze cap is riveted upon the top of the post. A third style of bench mark with abbreviated lettering (*B* and *D*, Pl. I), is used for unimportant points. This consists of a special copper nail $1\frac{1}{2}$ inches in length driven through a copper washer $\frac{7}{8}$ inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and cooperation by States is indicated by the addition of the State name (*G*, Pl. I).

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

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

but little. It is assumed that there is no difference between the mean sea levels determined from observations in the Atlantic Ocean, the Gulf of Mexico, and the Pacific Ocean.

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

Topographic maps.—Maps of the following quadrangles wholly or partly in North Carolina have been published by the United States Geological Survey up to July 1, 1916. They may be obtained for 10 cents each or \$3 for 50, except as otherwise noted, on application to the Director of the Survey at Washington, D. C.

Map of North Carolina (photolithograph),	Lincolnton.
30 cts.	Morganton.
Abingdon (Va.-Tenn.-N. C.).	Mount Guyot (Tenn.-N. C.).
Asheville (N. C.-Tenn.).	Mount Mitchell (N. C.-Tenn.).
Ayden.	Murphy (Tenn.-N. C.).
Beckford.	Nantahala (N. C.-Tenn.).
Belhaven.	Newbern.
Charlotte (N. C.-S. C.).	Norfolk (Va.-N. C.), ¹ 20 cts.
Chocowinity.	Norfolk (Va.-N. C.), double sheet. ¹
Coharie.	Parmele.
Cowee (N. C.-S. C.).	Pisgah (N. C.-S. C.).
Cranberry (N. C.-Tenn.).	Roan Mountain (Tenn.-N. C.).
Dahlonge (Ga.-N. C.).	Rocky Mount.
Ducktown special (Tenn.-Ga.-N. C.).	Saluda (N. C.-S. C.).
Edenton.	Springhope.
Ellijay (Ga.-N. C.-Tenn.).	Statesville.
Falkland.	Tarboro.
Four Oaks.	Trent River.
Gaffney (N. C.-S. C.).	Vanceboro.
Gastonia.	Virginia Beach (Va.-N. C.). ¹
Greeneville (Tenn.-N. C.).	Walhalla (Ga.-S. C.-N. C.).
Hertford.	Wilkesboro.
Hickory.	Williamston.
Hillsville (Va.-N. C.).	Wilson.
Kenly.	Winterville.
Kings Mountain (N. C.-S. C.).	Winton.
Kinston.	Wytheville (Va.-N. C.).
Knoxville (Tenn.-N. C.).	Yadkinville.

¹ Out of print. Norfolk double sheet includes Norfolk and Virginia Beach sheets.

PRECISE LEVELING.

Asheville, Beaufort, Blades, Cary, Clayton, Durham, Effland, Garner, Goldsboro, Graham, Greensboro, Hickory, High Point, Kenly, Kinston, Linwood, McLeansville, Morganton, Mount Mitchell, New Bern, Newton, Princeton, Raleigh, Salisbury, Selma, 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 Southern and the Southern railroads 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 Corps of Engineers, United States Army.

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 circuit of 1,043.2 miles at Brunswick was -1.057 feet. Cleveland and Knoxville are junction points with other links of the precise-level net, and the adjustment made by the Coast and Geodetic Survey in 1912 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 ; Cahutta, 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 run 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.

[Latitude $34^{\circ} 30' - 34^{\circ} 45'$; longitude $76^{\circ} 30' - 76^{\circ} 45'$.]

From Morehead City along Norfolk Southern R. R. to Atlantic.

Morehead City, 8.3 feet east of station, 5.6 feet north of north rail of railroad, 96.9 feet west of railroad company's wharf bulkhead; iron post stamped "7".....	Feet. 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

BLADES QUADRANGLE.

[Latitude $34^{\circ} 45' - 35^{\circ}$; longitude $76^{\circ} 45' - 77^{\circ}$.]

From Atlantic along Norfolk Southern R. R. to Riverdale.

Atlantic, 1.9 miles west of, 23 feet south of north rail, at southwest corner of M. D. Oglesby's freight platform; iron post stamped "18".....	18.544
Newport, in front of station; top of north rail.....	18.8
Newport, 2.3 miles west of, 25 feet south of north rail in line with telegraph poles; iron post stamped "29".....	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

NEW BERN QUADRANGLE.

[Latitude $35^{\circ} - 35^{\circ} 15'$; longitude $77^{\circ} - 77^{\circ} 15'$.]

From Riverdale along Norfolk Southern R. R. to Cove Creek.

Scott Creek trestle, 2 feet from north end of west abutment; bronze tablet stamped "7".....	7.076
New Bern, northwest corner of Broad and Craven streets, corner stone at northeast corner of Craven County courthouse; bronze tablet stamped "16".....	14.861
New Bern, corner of Queen and Hancock streets, top of north rail of main track of Norfolk Southern R. R. at intersection with west rail of Atlantic Coast Line.....	11.8
Milepost "G 54 M 41," 0.7 mile west of, 30 feet south of north rail, in line with telegraph poles; iron post stamped "27".....	26.521
Clark, road crossing at station; top of north rail.....	31.2
Tuscarora, 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 telegraph poles; iron post stamped "51".....	49.862

TRENT RIVER QUADRANGLE.

[Latitude 35°-35° 15'; longitude 77° 15'-77° 30'.]

From Cove along Norfolk Southern R. R. 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".....	Feet. 46.809
Dover, 19 feet east of main crossroad and 77 feet south of north rail; iron post stamped "64".....	62.841
Caswell, road crossing at station; top of north rail.....	45.6

KINSTON QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 77° 30'-77° 45'.]

From Caswell along Norfolk Southern R. R. to Falling Creek.

Kinston, 0.5 mile east of; top of north rail of Norfolk Southern R. R. at intersection with west rail of Wilmington & 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 courthouse; bronze tablet stamped "48".....	43.819
Falling Creek, 31 feet south of north rail of main track west of highway; iron post stamped "55".....	54.419

GOLDSBORO QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 77° 45'-78°.]

From Falling Creek along Norfolk Southern R. R. 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 courthouse; bronze tablet stamped "111".....	110.179
Goldsboro, in front of station; top of north rail of northernmost track.....	108.7

BIZZELL QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 78°-78° 15'.]

From Goldsboro along Southern Ry. 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.

[Latitude 35° 30'-35° 45'; longitude 78°-78° 15'.]

At Pine Level.

Pine Level, in front of station; top of north rail.....	168.4
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SELMA QUADRANGLE.

[Latitude 35° 30'-35° 45'; longitude 78° 15'-78° 30'.]

From Selma along Southern Ry. to Clayton.

Selma, at junction of Southern Ry. with Atlantic Coast Line; top of north rail of Southern Ry. track at west rail of Atlantic Coast Line track.....	175.7
Selma, 158 feet south of north rail of main track of Southern Ry., 128 feet west of west building line of Webb Street, near east end of one-story brick store occupied by N. B. Snipe & Bros.; bronze tablet stamped "178".....	177.319

Wilsons Mills, in coping over west edge of opening at north end of 3-by-3-foot box culvert; copper bolt stamped "U. S. G. S. 229 Ft. B. M.".....	Feet. 228.400
Clayton, 162 feet south of north rail of main track, brick store of W. H. McCullers, sr., & Son, near east corner in front; bronze tablet stamped "346".....	344.812

GARNER QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 78° 30'–78° 45'.]

From Clayton along Southern Ry. to Garner.

Auburn, in front of station; top of north rail.....	335.6
Garner, 25 feet north of north rail of main track and 12 feet west of southwest corner of ticket office; iron post stamped "384".....	382.685

RALEIGH QUADRANGLE.

[Latitude 35° 45'–36°; longitude 78° 30'–78° 45'.]

From Garner along Southern Ry. to Method.

Raleigh, corner stone of state capitol; bronze tablet stamped "363".....	362.435
Caraleigh Junction, at switch point; top of north rail.....	355.0

CARY QUADRANGLE.

[Latitude 35° 45'–36°; longitude 78° 45'–79°.]

From Method along Southern Ry. to Durham.

Method, in front of station; top of north rail.....	445.7
Cary, at intersection with north rail of Seaboard Air Line; top of north rail of Southern Ry.....	495.9
Cary, in front of station; top of north rail.....	495.3
Cary, 22 feet south of north rail of main track and 3 feet east of northeast corner of station; iron post stamped "497".....	495.738
Morrisville, in front of station; top of north rail.....	299.9
Morrisville, 0.6 mile west of, 33.6 feet south of north rail and 26.8 feet east of a 6-inch hickory tree; iron post stamped "321".....	320.417
Nelson, in front of station (private warehouse); top of north rail.....	402.4
Nelson, 2.1 miles west of, stone over north end of 3-by-3-foot culvert, in top; copper bolt stamped "U. S. G. S. 360 Ft. B. M.".....	359.113
Brassfield, in front of station; top of north rail.....	375.4
East Durham, in front of station; top of north rail.....	407.5

DURHAM QUADRANGLE.

[Latitude 36°–36° 15'; longitude 78° 45'–79°.]

From Durham along Southern Ry. to University.

Durham, west side of Main street entrance to county courthouse; bronze tablet stamped "406".....	405.176
University, in front of station; top of north rail.....	469.9
University, 1.5 feet north of northwest corner of station; iron post stamped "471".....	470.543

EFLAND QUADRANGLE.

[Latitude 36°–36° 15'; longitude 79°–79° 15'.]

From University along Southern Ry. to Mebane.

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

	Feet.
Oconeechee, at switch point; top of north rail.....	568. 3
Hillsboro, northwest corner of Orange courthouse; bronze tablet stamped "543".....	542. 500
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 telegraph poles; iron post stamped "667".....	665. 877

GRAHAM QUADRANGLE.

[Latitude 36°-36° 15'; longitude 79° 15'-79° 30'.]

From Mebane along Southern Ry. 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 courthouse, 2 feet west of main doorway; bronze tablet stamped "642".....	641. 072
Graham, in front of station, main track; top of north rail.....	655. 0
Burlington, in front of station; top of north rail of original main track.....	662. 3

McLEANSVILLE QUADRANGLE.

[Latitude 36°-36° 15'; longitude 79° 30'-79° 45'.]

From Burlington along Southern Ry. to McLeansville.

Elon College, at road crossing; top of north rail.....	715. 8
Gibsonville, 25.7 feet north of rail of main track at southeast corner of ticket office; iron post stamped "721".....	719. 925
McLeansville, 95 feet south of north rail, near southwest corner of small store; iron post stamped "744".....	743. 343

GREENSBORO QUADRANGLE.

[Latitude 36°-36° 15'; longitude 79° 45'-80°.]

From McLeansville along Southern Ry. to Jamestown.

Greensboro, in front of station; top of north rail.....	835. 7
Greensboro, northwest corner of federal courthouse and post office; bronze tablet stamped "839".....	838. 531
Pomona, in front of station; top of west rail.....	868. 4
Pomona, 1.5 miles south of, 2 feet from east end of north back wall of bridge 290.7; copper bolt stamped "U. S. G. S. 813 Ft. B. M.".....	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.

[Latitude 35° 45'-36°; longitude 80°-80° 15'.]

From Jamestown along Southern Ry. to Lexington.

High Point, 99 feet west of west rail of main track, J. R. Flagg's drug store, east corner of brick front; bronze tablet stamped "940".....	938. 843
High Point, in front of station; top of west rail.....	935. 6
Thomasville, 28 feet east of west rail, at southwest corner of ticket office; 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. 221

LINWOOD QUADRANGLE.

[Latitude 35° 45'–36°; longitude 80° 15'–80° 30'.]

From Lexington along Southern Ry. to Holtsburg.

	Feet.
Lexington, southeast corner of county courthouse; bronze tablet stamped "811"	809.503
Linwood, in front of station; top of west rail	657.4
Linwood, 0.7 mile south of, coping at east end of south abutment of bridge 326.4; copper bolt stamped "U. S. G. S. 630 Ft. B. M."	629.221

SALISBURY QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 80° 15'–80° 30'.]

From Holtsburg along Southern Ry. to Cleveland.

Holtsburg, 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 courthouse; bronze tablet stamped "765"	764.128
Majolica, in front of station; top of north rail	745.3
Majolica, 3.7 miles west of, at bridge over Second Creek, southeast corner of southeast pedestal block; copper bolt stamped "U. S. G. S. 671 Ft. B. M."	669.565
Cleveland, at southwest corner of station, 20 feet north of north rail; iron post stamped "790"	788.644

STATESVILLE QUADRANGLE.

[Latitude 35° 30'–36°; longitude 80° 30'–81°.]

From Cleveland along Southern Ry. 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 courthouse; bronze tablet stamped "926"	924.834
Eufola (formerly Plotts), 0.2 mile west of station, coping at southeast end of north abutment of bridge; copper bolt stamped "U. S. G. S. 776 Ft. B. M."	775.084

HICKORY QUADRANGLE.

[Latitude 35° 30'–36°; longitude 81°–81° 30'.]

From Catawba along Southern Ry. to Connelly Springs.

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 courthouse, 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, 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 culvert; copper bolt stamped "U. S. G. S. 1087 Ft. B. M."	1,085.652

MORGANTON QUADRANGLE.

[Latitude 35° 30'–36°; longitude 81° 30'–82°.]

From Connelly Springs along Southern Ry. to Nebo.

	Page.
Connelly Springs, in front of station; top of north rail.....	1, 194. 0
Connelly Springs, 142.4 feet north of north rail, south front of James Hudson's brick store, near east corner; bronze tablet stamped "1193".....	1, 191. 762
Valdese, in front of station; top of north rail.....	1, 202. 3
Drexel, 15 feet north of north rail, 0.1 mile east of milepost 74; iron post stamped "1193".....	1, 191. 628
Morganton, in front of station; top of north rail.....	1, 110. 2
Morganton, county courthouse, extreme northwest corner of north portico; bronze tablet stamped "1182".....	1, 180. 774
Calvin, in front of station; top of north rail.....	1, 059. 5
Glen Alpine, 73.2 feet north of north rail, southeast corner of brick basement of Hennessee & Co's. store; bronze tablet stamped "1215".....	1, 213. 944
Glen Alpine, in front of station; top of north rail.....	1, 209. 6
Bridgewater, 0.4 mile east of, bridge seat at west end of bridge over Muddy Creek, 2.8 feet south of south rail; copper bolt stamped "U. S. G. S. 1091 Ft. B. M.".....	1, 089. 549
Bridgewater, in front of station; top of rail.....	1, 095. 7
Nebo, 134.2 feet north of north rail, 1 foot from east front of J. D. Pitt's store, in south basement wall; bronze tablet stamped "1298".....	1, 296. 609
Nebo, in front of station; top of north rail.....	1, 282. 6

MOUNT MITCHELL QUADRANGLE.

[Latitude 35° 30'–36°; longitude 82°–82° 30'.]

From Nebo along Southern Ry. to Biltmore.

Marion, county courthouse, west face at south end of portico; bronze tablet stamped "1438".....	1, 436. 857
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
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
Dendron, in front of station; top of north rail.....	1, 752. 7
Round Knob, 9 feet south of north rail and 46.1 feet east of entrance to Round Knob Hotel, in face of solid rock; bronze tablet stamped "1829".....	1, 828. 176
Mud Cut, 14.2 feet south of north rail of main track and 293 feet east of switch point; iron post stamped "2153".....	2, 151. 574
Swannanoa tunnel, 2.6 feet east of west portal, in north side wall; bronze tablet stamped "2522".....	2, 520. 671
Terrell, in front of station; top of north rail.....	2, 524. 2
Black Mountain, in front of station; top of north rail.....	2, 365. 6
Swannanoa, 50.6 feet south of north rail, on west side of ticket office; iron post stamped "2222".....	2, 220. 393
Azalea, 12.8 feet south of north rail, 59.8 feet west of switch point, in face of rock; bronze tablet stamped "2057".....	2, 055. 966

ASHEVILLE QUADRANGLE.

[Latitude 35° 30'–36°; longitude 82° 30'–83°.]

From Biltmore along Southern Ry. to Paint Rock.

Biltmore, Salisbury branch, in front of station; top of north rail of main track.....	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".....	Feet. 1, 984.525
Asheville, in front of station; top of north rail.....	1, 984.1
Montford, in front of station; top of north rail.....	1, 968.1
Olivette, 1.1 miles east of, 40.8 feet north of north rail of main track, 400 feet east of water tank, in boulder containing 50 cubic yards; copper bolt stamped "U. S. G. S. 1924 Ft. B. M.".....	1, 922.944
Olivette, in front of station; top of north rail.....	1, 894.9
Alexander, in front of station; top of north rail.....	1, 790.9
Alexander, 310 feet west of station, 11.1 feet south of north rail, east side of road crossing; copper bolt stamped "U. S. G. S. 1796 Ft. B. M.".....	1, 794.537
Bailey, in front of station; top of north rail.....	1, 727.2
Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of milepost 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M.".....	1, 728.187
Rollins, in front of station; top of north rail.....	1, 668.2
Marshall, in front of station; top of north rail.....	1, 643.9
Marshall, southeast corner county courthouse; bronze tablet stamped "1646".....	1, 645.193
Barnard, in front of station; top of north rail.....	1, 531.6
Barnard, 0.2 mile west of station, 140 feet west of milepost 171, 6.5 feet north of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529 Ft. B. M.".....	1, 528.401
Sandy, in front of station; top of north rail.....	1, 461.5
Stackhouse, in front of station; top of north rail.....	1, 417.7
Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M.".....	1, 325.026
Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped "1259".....	1, 257.453
Paint Rock, in front of station; top of north rail.....	1, 265.6

Clarksville, Creedmoor, Durham, and Oxford quadrangles.

DURHAM AND GRANVILLE COUNTIES.

The 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. (See Bulletin 562.)

The method and limit of error were those now adopted by the Coast and Geodetic Survey in 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 millimeters \sqrt{K} (in which K is the distance in kilometers) leveled between adjacent bench marks both the forward and backward measures were repeated until they came within limits.

The instruments used were two self-reading rods, 3.2 meters in length graduated to centimeters and reading by estimation to millimeters; and a Coast and Geodetic Survey type precise level.

The party consisting of five persons was in charge of R. L. Libby, level man.

DURHAM QUADRANGLE.

[Latitude 36°-36° 15'; longitude 78° 45'-79°.]

From Durham north along Southern Ry. to Elerbee.

	Feet.
Durham, in foundation of courthouse, west side of Main Street entrance; 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 Ry. 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.....	257.838

CREEDMOOR QUADRANGLE.

[Latitude 36°-36° 15'; longitude 78° 30'-78° 45'.]

From Elerbee north along Southern Ry. 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 Ry. 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

OXFORD QUADRANGLE.

[Latitude 36° 15'-36° 30'; longitude 78° 30'-78° 45'.]

From Providence north along Southern Ry. to Bullock.

Providence, 45 feet northwest of Allen's warehouse, 20 feet east of tracks, 15 feet north of road-crossing sign, 10 feet south of station sign; iron post stamped "431".....	430.754
Oxford, 2.7 miles south of, 58.15 feet west of track midway between short trestle and railroad crossing, 20 feet north of milepost; iron post stamped "455".....	454.551
Oxford, 500 feet south of passenger station, 60 feet west of south railroad switch, in northeast corner of yard; iron post stamped "461" (destroyed in 1906).....	461.080
Oxford, on northwest corner of Crawford and Broad streets, 1 foot from southeast corner of tobacco warehouse owned by Z. W. Lyon, in east wall; aluminum tablet stamped "476".....	475.878
Oxford, 3 miles north of, 800 feet north of milepost 52, at road crossing, 45 feet east of road, 10 feet west of tracks; iron post stamped "524".....	524.460
Lewis, 150 feet northwest of station, 60 feet north of public road, 15 feet west of tracks; iron post stamped "544".....	544.471
Gela, 300 feet north of switch, 5 feet west of milepost 48, 20 feet west of track; iron post stamped "483".....	483.447

Stovall, 150 feet east of station, southwest corner of L. D. Veozis's yard; iron post stamped "478".....	Feet. 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.

[Latitude 36° 30'–36° 45'; longitude 78° 30'–78° 45'.]

From Bullock north along Southern Ry. to Clarksville, Va.¹

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
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Greensboro, Kernersville, Matinsville, Pine Hall, and Wentworth 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 latest 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 distributed 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. For elevations along this line in Virginia, see Bulletin 562; in West Virginia, see Bulletin 632.

GREENSBORO QUADRANGLE.

[Latitude 36°–36° 15'; longitude 79° 45'–80°.]

From Greensboro north along Southern Ry. to Summerfield.

Greensboro, in federal courthouse 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.....	872.1
Summerfield, 250 feet west of tracks, 0.2 mile northeast of station, in southeast corner of Dr. W. C. Davis's yard; iron post stamped "881"....	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

¹ See Bulletin 562.

KERNERSVILLE QUADRANGLE.

[Latitude 36°-36° 15'; longitude 80°-80° 15'.]

From Summerfield north along Southern Ry. to Stokesdale.

	Feet.
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

PINE HALL QUADRANGLE.

[Latitude 36° 15'-36° 30'; longitude 80°-80° 15'.]

From Stokesdale north along Southern Ry. 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" ..	901. 267
Ellisboro, in front of station; top of rail.....	824. 7
Ellisboro, 125 feet west of track, 100 feet northwest of station, west side of public road; iron post stamped "829".....	828. 613

WENTWORTH QUADRANGLE.

[Latitude 36° 15'-36° 30'; longitude 79° 45'-80°.]

From Madison along Norfolk & Western Ry. to Stoneville.

Madison, in front of station; top of rail.....	577. 4
Madison, 40 feet west of railway track, 300 feet north of trestle, in southeast corner of orchard of Mr. Griffin; iron post stamped "573".....	573. 346
Mayodan, in front of station; top of rail.....	584. 5
Mayodan, 0.5 mile north of, 170 feet east of railway track, in masonry dam across Mayo River; aluminum tablet stamped "594".....	593. 789
Mayodan, 300 yards north of station, 60 feet west of railway track, 140 feet southwest of north switch, on rise of hill; iron post stamped "590"....	590. 303
Stoneville, in front of station; top of rail.....	818. 1
Stoneville, 700 feet north of station, 40 feet east of railway track, 10 feet east of wagon road, on a lot belonging to R. L. Stone; iron post stamped "823".....	822. 593

MARTINSVILLE QUADRANGLE.

[Latitude 36° 30'-36° 45'; longitude 79° 45'-80°.]

From Stoneville north along Norfolk & Western Ry. to Price.

Stoneville, 3 miles north of, 500 feet north of John Grogan's house, 400 feet north of milepost 43 from Winston-Salem, 30 feet east of wagon road, 15 feet east of track; iron post stamped "990".....	989. 740
Price, in front of station; top of rail.....	1, 004. 5
Price, 125 feet northeast of station, 30 feet east of Norfolk & Western Ry., 50 feet southeast of crossing, 275 feet southeast of milepost 45; iron post stamped "1003".....	1, 002. 952

Gastonia, Hickory, Lincolnton, and Pleasant Ridge quadrangles.**CATAWBA, GASTON, AND LINCOLN COUNTIES.**

Following is the North Carolina portion of the results of a spur line of double simultaneous precise levels run from Newton, N. C., to Columbia, S. C., in 1900, by C. H. Semper:

HICKORY QUADRANGLE.

[Latitude $35^{\circ} 30' - 36^{\circ}$; longitude $81^{\circ} - 81^{\circ} 30'$.]

From Newton south along Carolina & Northwestern Ry. to Maiden.

Newton, county courthouse west end of north portico; bronze tablet stamped "996 Columbia, 1900".....	Feet. 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.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; longitude $81^{\circ} 15' - 81^{\circ} 30'$.]

From Maiden south along Carolina & Northwestern Ry. to Hardins.

Lincolnton, east side, at north end of county courthouse; bronze tablet stamped "869 Columbia, 1900".....	868.315
Lincolnton, 1.1 miles south of, at junction of Carolina & Northwestern Ry. with Seaboard Air Line; top of rail.....	892.8

GASTONIA QUADRANGLE.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; Longitude $81^{\circ} - 81^{\circ} 15'$.]

From Hardins south along Carolina & Northwestern Ry. 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 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" (probably destroyed 1912).....	813.785

PLEASANT RIDGE QUADRANGLE.

[Latitude $35^{\circ} - 35^{\circ} 15'$; longitude $81^{\circ} - 81^{\circ} 15'$.]

From Gastonia south along Carolina & Northwestern Ry. 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, Elwood, Hertford, Okisko, Potecasi, Suffolk, and Winton quadrangles.

CHOWAN, GATES, HERTFORD, AND PERQUIMANS COUNTIES.

The elevations in the following list were determined by a line from a bench mark 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, Elwood, and Poteasi quadrangles in 1906 by F. L. Foust.

EDENTON QUADRANGLE.

[Latitude $36^{\circ}-36^{\circ} 15'$; longitude $76^{\circ} 30'-76^{\circ} 45'$.]

From Edenton east along highway to Somerset.

Edenton, 2 miles southeast of, at W. H. Corprews's gage, 2,488 feet reading on tide gage ¹	Feet. 0. 000
Edenton, 5 miles southeast of, 300 feet northwest of Pleasant Grove Church, at small storehouse; iron post stamped "14".....	14. 476

From Edenton northeast along Norfolk Southern R. R. to Hertford.

Edenton, at right of entrance to county courthouse; aluminum tablet stamped "16".....	15. 972
Yeopim station, 15 feet south of center of road, in east corner of N. J. Dall's yard; iron post stamped "15".....	14. 562

From Amboy southeast along highway to Edenton.

Rockyhock, 200 feet south of crossroads, in front yard of H. B. Jones; iron post stamped "27".....	27. 880
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HERTFORD QUADRANGLE.

[Latitude $36^{\circ}-36^{\circ} 15'$; longitude $76^{\circ} 15'-76^{\circ} 30'$.]

From Hertford northeast along Norfolk Southern R. R. to Okisko.

Hertford, west of front entrance to county courthouse, in wall; bronze tablet stamped "14".....	14. 539
Winfall, 50 feet west of railroad crossing, in brick foundation of house occupied by Mrs. M. S. Rawlias; tablet stamped "15 Adj. 1903".....	15. 748

From Hertford southeast along highway to Burgess, thence west to Bethel (Eva), thence northwest to Yeopim.

Hertford, 3.2 miles southeast of, just north of main road forks, in brick chimney of house of Stephen Elliott west of road, in seventh course of bricks above ground; bronze tablet stamped "14 Adj. 1903".....	13. 914
Burgess, just north of road forks, west of road, at southeast corner of J. H. Parker's store; iron post stamped "13 Adj. 1903".....	13. 260
Bethel (formerly Eva post office), at store kept by James Gatling, near northwest corner of building, on west side; iron post stamped "15 Adj. 1903".....	15. 039

From Okisko south along highway via Woodville to Newhope, thence northwest to Winfall.

Woodville, at northwest corner of store and post office kept by N. Bridgt and J. A. Gregory; iron post stamped "5 Adj. 1903".....	4. 714
Woodville, 3 miles southeast of, 300 feet west of main road forks, at store kept by T. C. Symons, near northwest corner of building; iron post stamped "12 Adj. 1903".....	12. 577

¹ Mean water level from observations taken Sept. 18 to Oct. 16, 1902, inclusive, is at 2.623 feet reading on gage, about 0.195 foot above mean sea level accepted from Drummonds Landing gage at Somerset.

Newhope (Durants Neck post office), west of road, at southeast corner of L. B. Perry's store; iron post stamped "9 Adj. 1903".....	Feet. 9.325
Newhope, 2.6 miles northwest of, just south of road forks, in east side of brick chimney of house east of road; iron post stamped "14 Adj. 1903"...	13.728
Newhope, 6.6 miles northwest of, at junction with main Hertford-Elizabeth City road, east of road just south of forks; iron post stamped "14 Adj. 1903".....	14.370

At Somerset.

Somerset, at west corner of former post office; iron post stamped "11".....	10.905
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OKISKO QUADRANGLE.

[Latitude 36° 15'-36° 30'; longitude 76° 15'-76° 30'.]

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
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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
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BECKFORD QUADRANGLE.

[Latitude 36° 15'-36° 30'; longitude 76° 30'-76° 45'.]

From Hertford northwest along highway to Amboy.

Dwight, 0.5 mile south of, at north corner of H. J. Lane's store; iron post stamped "49".....	49.466
Amboy, 20 feet east of center of road, in front yard of W. H. Elliott; iron post stamped "33".....	33.093

From Amboy north along Norfolk Southern R. R. to Sunbury.

Ryland, at northeast corner of store and post office kept by W. H. Spivey, on north side; iron post stamped "Prim. Trav. Sta. No. 341".....	41.123
Gliden, at junction with main road, just south of road, 20 feet west of tracks; iron post stamped "36 Adj. 1903".....	36.387
Trotville, at southeast corner of store and post office kept by E. Carter, on south side, 20 feet west of tracks, just north of crossing; iron post stamped "39 Adj. 1903".....	38.542
Bosley, at northeast corner of B. H. Ward's store, on north side; iron post stamped "34 Adj. 1903".....	34.313
Sunbury, at southwest corner of C. F. Copeland's store, on south side, north side of T forks; iron post stamped "38 Adj. 1903".....	37.795

From 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".....	33.090
Wiggins Crossroads, 3.1 miles east of, at main road forks 0.8 mile south of Corapeake, west of road; iron post stamped "38 Adj. 1903".....	38.334
Wiggins Crossroads, 5.5 miles southeast of, in center of main road forks called Folly; iron post stamped "Prim. Trav. Sta. No. 13, 37 Adj. 1903".....	36.830
Acorn, at northeast corner of store (former post office), kept by L. A. Roundtree, on north side; iron post stamped "38 Adj. 1903".....	38.227
Sandycross, just south of crossroads, at northeast corner of unoccupied store, on east side; iron post stamped "52 Adj. 1903".....	52.322

From Nicanor southwest along highway to Dwight.

Nicanor, 3.3 miles southwest of station, in front yard of C. W. White's house; iron post stamped "14 Adj. 1903".....	Feet. 13.824
Belvidere, at southeast corner on east side of store kept by R. W. White, west of road, just north of forks; iron post stamped "Prim. Trav. Sta. No. 2, 14 Adj. 1903".....	14.392

From 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

From point near Sarem along highways to point 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

From 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"....	34.860
Vivian, at main road forks 0.2 mile north of post office; iron post stamped "30 Adj. 1903".....	29.820
Carter, at northeast corner of store and former post office, kept by A. Carter, jr., on north side; iron post stamped "20 Adj. 1903".....	19.685
Carter, 1.6 miles south of, on land of Peter Bowntree, 0.2 mile south of forks of main and second-class roads, 10 feet north and in front of old unoccupied house, in southwest corner of square formed by four cedar trees, 12 feet south of big gum tree; iron post stamped "14 Adj. 1903".....	14.449

WINTON QUADRANGLE.

[Latitude 36° 15'–36° 30'; longitude 76° 45'–77°.]

From Gatesville west along highways to Eure, thence north along Atlantic Coast Line to Sarem.

Gatesville, east of front entrance to county courthouse, on south side of building; aluminum tablet stamped "27 Adj. 1903".....	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

From 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
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From 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
Harrellsville, 3.7 miles north of, 150 feet north of residence of J. H. Pilot, 17 feet north of Pilands Crossroads; iron post stamped "39 N. C.".....	39.029

Harrellsville, 20 feet east of post office and store kept by J. D. Hill, west of main street; iron post stamped "65 N. C.".....	Feet. 65. 192
Bethelhem, 175 feet south of crossroads, 250 feet southwest of J. D. Thompson's store, in front foundation of church; aluminum tablet stamped "48 N. C.".....	48. 270
Ahoskie, 2.9 miles east of, 450 feet west of G. S. Early's residence, 20 feet north of crossing of Harrellsville and Winton roads; iron post stamped "50 N. C.".....	49. 556
Ahoskie, 250 feet south of station, 115 feet north of post office, in southeast corner of Ahoskie Bank; aluminum tablet stamped "53 N. C.".....	52. 561

From Tunis to point 6 miles southwest of Winton.

Winton, front face of county courthouse, at southeast corner; aluminum tablet stamped "46 N. C.".....	44. 581
Winton, 6 miles southwest of, on Winton-Union road, at five forks, 590 feet south of residence of J. A. Golay; iron post stamped "52 N. C."....	52. 343

ELWOOD QUADRANGLE.

[Latitude 36° 30' - 36° 45'; longitude 76° 45' - 77°.]

From 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."..	33. 142
Riddicksville, 600 feet east of post office (residence of J. D. Riddicks), at crossroads, 15 feet west of road; iron post stamped "34 N. C.".....	34. 016

POTECASI QUADRANGLE.

[Latitude 36° 15' - 36° 30'; longitude 77° - 77° 15'.]

From 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.

[Latitude 36° 30' - 36° 45'; longitude 77° - 77° 15'.]

At Como.

Como, at corner of post office and store just north of road forks; iron post stamped "73 N. C., Prim. Trav. Sta. No. 9".....	72. 833
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SUFFOLK QUADRANGLE.

[Latitude 36° 30' - 36° 45'; longitude 76° 30' - 76° 45'.]

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
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Ayden, Chocowinity, Clayton, Falkland, Goldsboro, Hickory Grove, Kenly, Kinston, New Bern, Parmele, Raleigh, Rocky Mount, Selma, 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 New Bern 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 Kinston quadrangle by E. H. Cothran in 1907 and by Carroll Caldwell in 1902; in Falkland, Goldsboro, Kenly, Selma, Hickory Grove, and Raleigh quadrangles in 1902 by Carroll Caldwell. Additional leveling was done in Chocowinity quadrangle in 1914, by J. B. Metcalfe and in Kinston quadrangle in 1913, by C. W. Arnold.

NEW BERN QUADRANGLE.

[Latitude 35°-35° 15'; longitude 77°-77° 15'.]

From New Bern southwest along Trent River road to Olivers.

New Bern, in northeast corner of county courthouse; bronze tablet stamped "16 Raleigh".....	Feet 14. 861
New Bern, U. S. Engineer Corps bench mark, end of first step of William Ellis's dwelling (reported as 9.392 above mean low water).....	9. 286
New Bern, 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

From New Bern north to Askin.

Pettifords Ferry, on east side of Neuse River, east side of large cypress, on point above landing; 3 nails (driven by U. S. Engineer Burbank and reported as 2.154 feet above mean low tide).....	2. 05
Askin, 2 miles south of, northwest corner of Cicero Gaskin's front yard, at junction of roads; iron post stamped "28 Raleigh".....	27. 672

From Vanceboro southwest to Chip.

Chip, in northeast corner of W. A. Ewell's store, 200 feet northeast of junction of Streets Ferry and River roads; iron post stamped "11 Raleigh".....	10. 672
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TRENT RIVER QUADRANGLE.

[Latitude 35°-35° 15'; longitude 77° 15'-77° 30'.]

From 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. Simmon's store; iron post stamped "47 Raleigh".....	45. 925
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Trenton, 33 feet from (front) northeast corner of county courthouse, 40 feet from center of Market Street, 3 feet from granite shaft marked "N. C. G. S. + U. S. G. S."; iron post stamped "29 Raleigh".....	Feet. 28. 144
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From 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".....	45. 729

VANCEBORO QUADRANGLE.

[Latitude 35° 15'–35° 30'; longitude 77°–77° 15']

From 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
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From 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".....	21. 632
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".....	42. 652

From Vanceboro north along highway to Chocowinity.

Chocowinity, 6 miles south of, at junction of road running northwest to Calico Hill with New Bern-Washington road; iron post stamped "67 Raleigh".....	65. 903
Chocowinity, 1.9 miles south of, 15 feet to left of road, in F. H. Van Erstein's front yard; iron post stamped "49 Raleigh".....	48. 214

AYDEN QUADRANGLE.

[Latitude 35° 15'–35° 30'; longitude 77° 15'–77° 30']

From 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".....	28. 072
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; iron post stamped "67 Raleigh".....	62. 996
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. 928

From 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".....	41. 924
Gardnerville, 200 feet south of, at right of road, in southeast corner of J. E. Gardner's front yard; iron post stamped "34 Raleigh".....	32. 980

From Gardnerville south along highway to Fort Barnwell.

Maplecyress, 3 feet north of northwest corner of J. B. Gardner's store; iron post stamped "23 Raleigh".....	Feet. 22. 454
Maplecyress, 6.2 miles south of, 300 feet southwest of junction of Core Creek road with Neuse road, house at right of road, halfway between cedar and edge of road, in Oliver Rigg's front yard; iron post stamped "42 Raleigh".....	41. 598

CHOCOWINITY QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 77°–77° 15'.]

From 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
Washington, at southeast corner of courthouse, in foundation wall; bronze tablet stamped "12 Raleigh"	11. 049

From 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
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From 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"	25. 271
Mineola, 8.1 miles north of, 100 feet east of east edge of road, 25 feet north of large oak at gate, 17 feet west of southwest corner of J. L. Woodard's blacksmith shop and wood yard; iron post stamped "66 Raleigh"	64. 838

From Washington east along Norfolk Southern R. R. 3 miles (leveled twice).

Washington, in the southwest corner of the county courthouse; bronze tablet stamped "Raleigh 11"	11. 049
Washington, 0.82 mile south of, about $\frac{1}{4}$ mile east of railroad station, north of highway, top of concrete culvert over inlet of river; cross on top of wall.....	6. 19
Washington, 1.62 miles east of, south rail opposite milepost B. 126, N. 35; top of railroad spike.....	8. 5
Road crossing, 200 feet east of switch; top of south rail.....	13. 6
Washington, 2.62 miles east of, 60 feet west of milepost B. 125, N. 36; in south rail top of railroad spike.....	12. 1
Milepost B. 125, 0.40 mile east of; railroad crossing.....	17. 3

WINTERVILLE QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 77° 15'–77° 30'.]

From 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 courthouse, 100 feet north of center of Third Street, 57 feet west of center of Evans Street; bronze tablet stamped "68 Raleigh"	64. 261

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 stamped "45 Raleigh".....	Feet. 41.538
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From Greenville east along road to Grimesland.

Greenville, 6 miles east of, 0.25 mile west of road forks for Blackjack, 200 feet 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.

[Latitude 35° 45'-36°; longitude 77°-77° 15'.]

From Williamston west along Atlantic Coast Line to Parmele.

Williamston, in northwest corner of foundation of county courthouse, 3 feet above ground; bronze tablet stamped "61 Raleigh".....	59.902
Everetts, 75 feet west of southwest corner of station platform, 75 feet south of south rail of main line, in northeast corner of L. B. Wynn's front yard; iron post stamped "68 Raleigh".....	65.983

From 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".....	74.963
Hamilton, about 1 foot northeast of northwest corner of post office, 75 feet east of northeast corner of Front and Liberty streets; iron post stamped "74 Raleigh".....	73.311

PARMELE QUADRANGLE.

[Latitude 35° 45'-36°; longitude 77° 15'-77° 30'.]

From Parmele southeast along Atlantic Coast Line to Oakley.

Parmele, 150 feet south of railroad station, 110 feet south of center of Plymouth and Rocky Mount branch, 100 feet west of center of Weldon and Kinston branch, 1 foot north of store of Dr. I. E. Rich; iron post stamped "78 Raleigh".....	74.797
Oakley, 100 feet north of north rail Atlantic Coast Line, 75 feet south of highway, 2 feet east of front of store of Gray & Rogers; iron post stamped "67 Raleigh".....	63.552

From Parmele 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).....	75.5
Oak City, 1.5 feet west and 1.5 feet north of northeast corner of store of J. E. Hines, 75 feet southwest of west end of Atlantic Coast Line freight and passenger station; iron post stamped "84 Raleigh".....	84.132
Speed, 105 feet north of post office, 2.5 feet east of northwest corner of W. J. Davenport's store, 1 foot north of building line; iron post stamped "60 Raleigh".....	59.895

From Parmele west along Atlantic Coast Line to Mildred.

Bethel, 1 foot southwest of southwest corner of station, 171 feet west of main crossroads, 18 feet north of railroad track; iron post stamped "68 Raleigh".....	68.666
Mildred, 220 feet south of south rail of railroad track, 25 feet south of center of main highway, 1 foot north of front of store of Marion Cobb; iron post stamped "46 Raleigh".....	45.926

From Bethel southeast along highway to house.

Bethel, 4 miles south of, at road forks, 50 feet east of center of Greenville Road, 20 feet north of center of Neighborhood Road, 500 feet north of residence of J. L. Moore; iron post stamped "66 Raleigh".....	Feet. 66.230
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KINSTON QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 77° 30'-77° 45']

From Kinston northeast along Atlantic Coast Line to Graingers.

Kinston, north face of northwest corner of portico on west end of county courthouse; bronze tablet stamped "48 Raleigh".....	43.819
Kinston, on northeast corner of Caswell monument; cross mark (cut by U. S. Engineer Burbank).....	43.10
Kinston, Norfolk Southern R. R., at Caswell Street crossing; top of north rail.....	42.6
Kinston, in front of Atlantic Coast Line station; north rail.....	42.1
Graingers, 6 feet south of post office, 27 feet east of center of highway, 126 feet east of north rail of Atlantic Coast Line; iron post stamped "77 Raleigh".....	73.800

From Castoria south to Snow Hill.

Snow Hill, in wall at north side of entrance to county courthouse; aluminum tablet stamped "64 Raleigh Prim. Trav. Sta. No. 14, 1913".....	64.088
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From Graingers via Ridge Springs to Snow Hill.

Graingers, 1.75 miles north of, 120 feet northwest of Sharon Church, west of road in root of oak tree; copper nail marked "B. M. 71.3".....	71.28
Graingers, 2.54 miles north of, 280 feet southeast of house, 6 feet northeast of C. H. Gray's r. f. d. box, east side of road; iron post stamped "1913, 74".....	73.71
Graingers, 4 miles north of, west of road, 250 feet south of stream crossing, 30 feet north of road forks, in root of oak tree; copper nail marked "B. M. 70.4".....	70.36
Graingers, 5.24 miles north of, 15 feet northeast of road forks; iron post stamped "Prim. Trav. Sta. No. 9, 1913, 73".....	73.049
Graingers, 6.60 miles north of, 10 feet east of center of road forks, in root of large oak snag; copper nail marked "B. M. 36.4".....	36.30
Graingers, 7.02 miles north of, in southwest corner at crossroads, in root of large oak tree; copper nail marked "B. M. 40.3".....	40.26
Moccasin River; water surface under bridge Nov. 25, 1913.....	13.2
Graingers, 8.30 miles north of, 15 feet northwest of center of road forks; standard iron post stamped "1913, 39".....	38.622
Graingers, 9.77 miles north of, 80 feet northwest of road forks, in top of large oak stump; copper nail marked "B. M. 39".....	38.82
Ridge Springs, 60 feet south of Speer & Edwards store; iron post stamped "Prim. Trav. Sta. No. 10, 1913, 36".....	35.846
Ridge Springs, 1.25 miles west of, 150 feet west of T. J. Worthington's r. f. d. box, north of road, in root of cedar tree; copper nail marked "B. M. 70".....	69.86
Ridge Springs, 2.20 miles west of, 15 feet northeast of road forks, in root of oak tree; copper nail marked "B. M. 68.3".....	68.22
Ormondsville, in northeast corner at crossroads, opposite H. C. Ormond's store; iron post stamped "1913, 72".....	72.234
Ormondsville, 0.72 mile west of, 90 feet northwest of crossroads, in root of oak tree; copper nail marked "B. M. 72.8".....	72.65

Ormondsville, 1.89 miles west of, 100 feet southwest of road forks, in root of large sycamore tree; copper nail marked "B. M. 71".....	Feet. 70.87
Maury, in north side of Hardy Bros. store, 1½ feet above ground, 1½ feet from northeast corner; bronze tablet stamped "1913, 78".....	78.034
Maury, 0.98 mile southwest of, 450 feet west of road forks, in R. Lane's yard, in root of oak tree; copper nail marked "B. M. 77.6".....	77.50
Maury, 2 miles west of, 100 feet northwest of B. Taylor's house, south of road, in root of oak tree; copper nail marked "B. M. 80".....	79.96
Maury, 3.40 miles west of, 200 feet northwest of Grimsley Church, in southeast corner at crossroads; standard iron post stamped "1913, 84".....	84.029
Maury, 4.53 miles west of, 400 feet west of road forks at R. E. Hardy's house, in root of large oak tree; copper nail marked "B. M. 56.6".....	56.38
Maury, 5.72 miles west of, 150 feet northwest of road forks, in root of persimmon tree; copper nail marked "B. M. 48".....	48.05
Moccasin River; water surface under bridge Nov. 27, 1913.....	26.4

From Snow Hill south via Institute to Fields Siding, thence east to Falling Creek.

Snow Hill, 1.30 miles south of, 30 feet south of road forks, in root of oak tree; copper nail marked "B. M. 99.3".....	99.51
Snow Hill, 2.66 miles south of, in northwest corner at road forks, 1,000 feet south of stream crossing; iron post stamped "1913, 112".....	112.290
Snow Hill, 4.03 miles south of, east side of road, 100 feet west of house, in root of large oak tree; copper nail marked "B. M. 112.5".....	112.68
Snow Hill, 5.53 miles south of, 0.5 mile south of Arba, 320 feet south of road forks east of road, in root of tree; copper nail marked "B. M. 127.6"....	127.77
Snow Hill, 7.56 miles south of, in northeast corner of roads; iron post stamped "Prim. Trav. Sta. No. 13, 1913, 115".....	115.447
Snow Hill, 8.54 miles south of, 350 feet south of road forks at Institute, west of road, in cedar tree; copper nail marked "B. M. 117.2".....	117.43
Institute, 1.49 miles south of, 80 feet west of road forks in root of large oak tree; copper nail marked "B. M. 110.5".....	110.74
Institute 2.54 miles south of, 30 feet south of road forks; iron post stamped "1913, 110".....	110.155
Institute, 3.98 miles south of, 120 feet south of road forks, in front of F. R. Hodges's residence, in root of small oak tree; copper nail marked "B. M. 73".....	73.20
Institute, 5.02 miles south of, 10 feet east of road forks, in root of oak tree; copper nail marked "B. M. 102.5".....	102.74
Institute, 6.22 miles south of, 1,400 feet west of Fields Siding, northeast of road crossing of north-south track; iron post stamped "Prim. Trav. Sta. No. 12, 1913, 108".....	108.639
Fields Siding, 0.35 mile east of, in base of milepost 18; railroad spike marked "B. M. 92.4".....	92.64
Fields Siding, 1.28 miles east of, north of track in base of signpost, at road crossing; railroad spike marked "B. M. 68.9".....	69.15

From Kinston north via Carolina R. R. to Snow Hill. (An excessive error has been adjusted in this line.)

Kinston, 1.16 miles northwest of, west of north-south track, in base of whistle post; railroad spike marked "B. M. 42.5".....	42.51
Kinston, 2.34 miles northwest of, south of public-road crossing, 500 feet east of Hines Junction, in base of telephone pole; railroad spike marked "B. M. 49".....	48.97

	Feet.
Kinston, 3.80 miles northwest of, 20 feet southeast of center of crossing of north-south railroad and Kinston-Institute road; standard iron post stamped "1913, 107".....	106.607
Kinston, 4.93 miles northwest of, 200 feet north of road crossing, 20 feet west of track, in base of pine stump; railroad spike marked "B. M. 89.7"....	89.53
Kinston, 6.04 miles northwest of, 130 feet south of point of switch, between switch and main track; iron post stamped "1913, 102".....	101.699
Kinston, 7.01 miles northwest of, on west end of brick culvert; painted circle marked "B. M. 99.4".....	99.23
Dawson, in front of station; top of rail "100.3".....	100.1
Dawson, 0.37 mile north of, 40 feet south of road crossing, on west end of brick culvert; painted circle marked "B. M. 92.7".....	92.44
Dawson, 1.43 miles north of, 15 feet northeast of center of track at road crossing; iron post stamped "1913, 91.0".....	90.584
Glenfield, 400 feet north of station, 6 feet south of road crossing, on west end of brick culvert; circle marked "B. M. 90.5".....	90.21
Glenfield, 1.08 miles north of, 200 feet north of bridge, west side of track, in base of whistle post; railroad spike marked "B. M. 81.3".....	81.02
Glenfield, 1.87 miles north of, 350 feet south of Suggs Siding, 20 feet west of road crossing; iron post stamped "1913, 102.0".....	101.550
Glenfield, 3.86 miles north of, 200 feet north of road crossing, 15 feet east of track, in pine stump; railroad spike marked "B. M. 95.1".....	94.71
Snow Hill, in front of station; top of rail, "74.8".....	74.37

TARBORO QUADRANGLE.

[Latitude 35° 45'-36°; longitude 77° 30'-77° 45'.]

From Speed southwest along Atlantic Coast Line to Tarboro.

Tarboro, 2.7 miles east of, East Carolina Ry. drawbridge, in south or down-river end of coping to east abutment of pier; bronze tablet stamped "48 Raleigh".....	47.799
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From 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 courthouse; bronze tablet stamped "52 Raleigh".....	51.940
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From Tarboro west along Atlantic Coast Line to Rocky Mount.

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

From 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".....	112.148
St. Lewis, 30 feet from center of Wilson-Tarboro road, 2 feet from north corner of former post office, 2 feet from northwest (front) side; iron post stamped "115 Raleigh".....	114.350

From 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".....	103.085
Crisp, at northwest corner of former post office, 30 feet south of crossroads; iron post stamped "104 Raleigh".....	103.802

FALKLAND QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 77° 30'–77° 45'.]

From 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".....	Feet. 114.833
Toddy, at forks of road, at west corner of Jackson Bros. storehouse; iron post stamped "89 Raleigh".....	89.408
Farmville, in second pier of Eastern Carolina R. R. station, west corner of; aluminum tablet stamped "85 Raleigh".....	85.524
Bullards Crossroads, at Smith's store; iron post stamped "74 Raleigh"....	74.132

From Farmville west along road to Saratoga.

Fieldsboro, at south corner of W. H. Cook's store; iron post stamped "92 Raleigh".....	92.269
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From Speights Bridge via Castoria and Willow Green, thence northwest to Farmville.

Speights Bridge, 25 feet east of center of road; iron post stamped "94 Raleigh".....	94.345
Castoria, at southeast corner of post office and store; iron post stamped "107 Raleigh".....	106.860
Willowgreen, at forks of road, 35 feet east of storehouse; iron post stamped "76 Raleigh".....	76.169

ROCKY MOUNT QUADRANGLE.

[Latitude 35° 45'–36°; longitude 77° 45'–78°.]

From 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".....	114.000
South Rocky Mount, in front of station; top of rail.....	125.1
Sharpsburg, 75 feet east of Atlantic Coast Line track, 20 feet north of main public road, 2 feet west of small store; iron post stamped "138 Raleigh".....	138.896
Elm City, 150 feet west of southwest corner of station, 200 feet west of rail, 30 feet south of center of main street, 5 feet west of Elm City Bank; iron post stamped "135 Raleigh".....	135.567

From 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 R. R., 90 feet west of line of west end of station, 9 feet southeast of southeast corner of V. B. Batchelor's tobacco pack house; iron post stamped "189 Raleigh".....	189.300

From 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
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WILSON QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 77° 45'–78°.]

From Saratoga northwest along highway to Wilson.

Saratoga, east corner of post office; iron post stamped "120 Raleigh".....	120.521
Sun, 1 mile west of, 100 feet east of center of road forks, on south side of east fork; iron post stamped "115 Raleigh".....	115.235

From Elm City south along Atlantic Coast Line via Wilson and Fremont to Goldsboro.

Wilson, in granite coping of entrance to county courthouse; bronze tablet stamped "145 Raleigh".....	Feet. 145.085
Black Creek, southwest corner of post office, 60 feet east of railroad track, 40 feet east of center of street; iron post stamped "126 Raleigh".....	126.833
Fremont, at southwest corner of post office, 39 feet south of street, 50 feet east of railroad; iron post stamped "146 Raleigh".....	146.862

From 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
Moyton, at southeast corner of former post office; iron post stamped "93 Raleigh".....	93.666

From 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".....	123.52
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GOLDSBORO QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 77° 45'-78°.]

From Pikeville to Goldsboro.

Pikeville, northeast corner of Smith's store, 50 feet west of railroad track, 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.

[Latitude 35° 30'-35° 45'; longitude 78°-78° 15'.]

From Wilson southwest along Atlantic Coast Line to Selma.

Lucama, at east corner of I. Williams's store, 80 feet west of track, 50 feet south of center of road; iron post stamped "134 Raleigh".....	133.675
Boyett, at east corner of Kirby's store, 80 feet west of track, 25 feet south of center of road; iron post stamped "205 Raleigh".....	205.392
Kenly, at west corner of post office building, 150 feet east of railroad, 25 feet northeast of center of street; iron post stamped "204 Raleigh".....	204.284
Micro, 90 feet northwest of track, 20 feet southwest of center of road, northwest corner of post office; iron post stamped "192".....	192.240

From Fremont to Pinkney (double-rodged line).

Pinkney, in northwest corner of R. G. Pittman's yard; iron post stamped "149 Raleigh".....	148.312
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From 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
Talbot, 10 feet south of center of road, 50 feet south of forks; iron post stamped "240 Raleigh".....	240.038

From Emit east to Connor.

Connor, in chimney of Mr. Hight's house; bronze tablet stamped "273 Raleigh".....	273.146
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SPRINGHOPE QUADRANGLE.

[Latitude 35° 45'–36°; longitude 78°–78° 15'.]

From Springhope southeast along highway to Strickland Crossroads.

Springhope, 60 feet northwest of northwest rail of main track of Atlantic Coast Line, 40 feet from line of northeast end of station, 85 feet southwest of center of Pine Street, on property line of North Railroad Street; iron post stamped "259 Raleigh".....	Feet. 260.575
Finch, south side of Raleigh road, opposite road from Springhope; iron post stamped "244 Raleigh".....	245.523
Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 Raleigh".....	178.057

From Bunn east along highway to Nashville.

Bunn, at northwest corner of post office, 20 feet east of center of road; iron post stamped "295 Raleigh".....	295.094
Hunts, at southwest corner of Dr. Edwards's office; iron post stamped "287 Raleigh".....	287.337
Oakland, southwest corner of Barnes's store, 40 feet west of center of road; iron post stamped "240 Raleigh".....	240.741

From Talbot northwest along highway to Eatmon.

Eatmon, 100 feet northwest of, 20 feet east of road, 50 feet south of road forks; iron post stamped "240 Raleigh".....	240.038
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From 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; 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

SELMA QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 78° 15'–78° 30'.]

From Clayton northeast along highway to Emit.

Clayton, in east corner of Mr. McCuller's store; bronze tablet stamped "346 Raleigh".....	344.812
Archer, 250 feet west of crossroads, in southwest pillar of Masonic Hall; bronze tablet stamped "338 Raleigh".....	337.548
Emit, north corner of former post office, east angle of crossing, 25 feet east of center of road; iron post stamped "287 Raleigh".....	286.740

From Selma southwest to Smithfield, thence via Spilona and Preston to Wilsons Mills.

Selma, in brick store; bronze tablet stamped "178 Raleigh".....	177.319
Smithfield, in northwest corner of county courthouse; bronze tablet stamped "146 Raleigh".....	145.617
Spilona, at southeast corner of former post office; iron post stamped "226 Raleigh".....	225.808
Preston, 30 feet south of center of road forks, in north corner of A. M. Sanders'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

HICKORY GROVE QUADRANGLE.

[Latitude 35° 45'–36°; longitude 78° 15'–78° 30'.]

From Unionhope north via Privett to Bunn.

	Feet.
Pilot, at north corner of former post office; iron post stamped "361 Raleigh"	361. 767
Privett, northwest corner of post office; iron post stamped "326 Raleigh" ..	326. 894

From 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
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RALEIGH QUADRANGLE.

[Latitude 35° 45'–36°; longitude 78° 30'–78° 45'.]

From 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; aluminum tablet stamped "311 Raleigh"	311. 637
Raleigh, in corner stone of State capitol; bronze tablet stamped "363 Raleigh"	362. 435

Belhaven and Bunyon quadrangles.**BEAUFORT AND WASHINGTON COUNTIES.**

The elevations in the following list were determined by primary leveling and accord with an elevation at Washington published in Bulletin 441.

The leveling was done in 1914 by J. B. Metcalfe.

BELHAVEN QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 76° 30'–76° 45'.]

From Terraceia east along Norfolk Southern R. R. to Bishop Cross (leveled twice).

	Feet.
Terraceia, 1.5 miles east of, in northwest corner of railroad crossing; iron post stamped "14.1"	14. 131
Wilkinson, near station, east end of switch, in base of switch signal; top of bolt	11. 2
Bishop Cross, 75 feet north of station, 10 feet east of railroad track; iron post stamped "P. T. Sta. No. 3"	11. 634
Bishop Cross, 150 feet northeast of station, on east bank of ditch; iron post stamped "11.7 by Drainage Survey." (Set by Drainage Survey)	11. 811

From Bishop Cross southeast along Norfolk Southern R. R. to Belhaven, thence along highways east 6 miles, thence northwest to Sixteenmile Siding, thence southwest along Norfolk Southern R. R. to Bishop Cross.

Pantego, 0.5 mile north of, at milepost B. 4, M. 25; top of stand for extra rail	12. 23
Pantego, 20 feet south of station, 12 feet west of railroad; iron post stamped "11"	11. 009
Belhaven, 2 miles north of, west of track, at milepost B. 2, M. 27; on north support for extra rail	4. 03
Belhaven, 1 mile north of, west of track, at milepost B. 1, M. 28; top of center support for extra rail	6. 42
Belhaven, 25 feet south of station; iron post stamped "3.7" by Drainage Survey. (Set by Drainage Survey; elevation by that survey), 3.80, field book	3. 704

	Feet.
Belhaven, 1.12 miles east of, in southeast corner of drain crossing, southeast of wooden culvert, south of road; in root of red-oak tree; copper nail....	4.69
Belhaven, 2.21 miles east of, 200 feet west of house, south side of road, in 12-inch pine; copper nail.....	4.06
Belhaven, 3.07 miles east of, in southwest corner of Yatesville and Haslin road forks, 25 feet east of house; iron post stamped "3.1".....	3.305
Belhaven, 4.10 miles east of, at second-class T road south, south side of road, in root of 4-foot swamp oak; copper nail.....	10.25
Belhaven, 5.32 miles east of, on root of red-oak stump, in north angle of sharp bend in road to northeast; copper nail marked "4.7".....	4.93
Sixteen-mile Siding, 300 feet east of railroad, north side of road; iron post stamped "P. T. Sta. No. 6, 16".....	16.451
Milepost B. 12, M. 17, opposite; top joint of west rail.....	18.0
Milepost B. 11, M. 18, 400 feet south of Pike Road station; on top of south support for extra rail.....	18.61
Pike road, 1 mile south of, at milepost B. 10, M. 19; on top of south support for extra rail.....	18.20
Pike road, 2 miles south of, at milepost B. 9, M. 20, 5 feet west of railroad track; iron post stamped "17.7".....	18.174
Milepost B. 8, M. 21, west of track; top of south support for extra rail....	16.31
Milepost B. 7, M. 22, west of track; top of north support for extra rail....	14.10
Milepost B. 6, M. 23, west of track; top of north support for extra rail....	13.00
Belhaven, 6.09 miles east of, south of T of Beech Ridge and Swamp roads; iron post stamped "Prim. Trav. Sta. No. 5, 7.8".....	8.043
Belhaven, 6 miles east by 1 mile north of, in northeast corner of T road, in top of pine stump; copper nail.....	10.05
Belhaven, 6 miles east by 2.18 miles north of, northeast side of road, in a little swale, in root of 15-inch pine; copper nail.....	5.25
Pungo, 4.4 miles southeast of, in northeast corner of T road to north; iron post stamped "6.7".....	6.917
Pungo, 3.3 miles southeast of, 700 feet east of house, in southwest corner of small canal crossing, in root of 16-inch pine; copper nail.....	5.84
Pungo, 2.3 miles southeast of, in little swale, 20 feet south of road, in 24-inch pine; copper nail.....	4.42
Pungo, 1.8 miles southeast of, 75 feet southwest of old house which sets on north side of road, south side of road, in root of 12-inch pine; copper nail.....	5.11
Pungo, 0.6 mile southeast of, in southwest corner of dim road crossing; iron post stamped "6.4".....	6.631
Indian Creek (Pungo post office), at road crossing, 15 feet west of three corners, signboard "Leechville 8 miles, Pantego 4, Pike Road 7," in root of 18-inch pine tree; copper nail.....	3.30
Pungo post office, 1.14 miles northwest of, 50 feet north of schoolhouse, east side of road, in top of stump; copper nail.....	7.47
Pungo post office, 2.28 miles north of, at dim T road east, east side of road, halfway between two churches 800 feet apart; in root of 10-inch persimmon tree; copper nail.....	6.72
Pungo post office, 2.90 miles north of, in northwest corner of forks, in root of iron-wood tree; copper nail.....	5.68
Pungo post office, 3.63 miles northwest of, 15 feet northeast of schoolhouse, in northwest corner of T road north; iron post stamped "10.4"....	10.731
Sixteen-mile Siding, about 2 miles southeast of, in northwest corner of T road north, in 16-inch swamp oak; copper bolt.....	12.52

BUNYON QUADRANGLE.

[Latitude 35° 30'–35° 45'; longitude 76° 45'–77°.]

From point 3 miles east of Washington east along Norfolk Southern R. R. to Terraceia (leveled twice).

	Feet.
Washington, 3.62 miles east of, 100 feet west of milepost B. 123, N. 37, on south rail; spike.....	17.0
River Road station, at road crossing; top south rail.....	20.7
Bunyon, about 700 feet west of station, southeast corner of railroad crossing; top of rail.....	13.8
Bunyon, 1 mile east of, 15 feet north of railroad tracks, in top of milepost B. 121, N. 40; railroad spike.....	36.17
Hall Swamp, 0.25 mile west of station, 6 feet south of track, in top face of southwest corner of west concrete abutment of railroad bridge; copper tablet stamped "30".....	30.473
Hall Swamp, railroad crossing, at station; top of rail.....	37.2
Hall Swamp, 0.5 mile east of station, 250 feet east of lumber railroad crossing, north side of track, in top of milepost B. 120, N. 41; spike.....	39.62
Alligoods station, at road crossing; top of rail.....	38.0
Alligoods, 0.5 mile east of station, north of track, in top of milepost B. 119, N. 42; spike.....	41.48
Alligoods, about 1 mile east of station; at railroad crossing.....	39.8
Slatestone, 0.25 mile west of station, 100 feet east of milepost B. 118, N. 43, 50 feet east of second-class road crossing; top of north rail.....	39.8
Slatestone, railroad crossing at station; top of rail.....	40.0
Slatestone, 1 mile east of station, north side of track, in side of milepost B. 117, N. 44; spike.....	41.53
Slatestone, 2 miles east of station, 200 feet east of road crossing, north side of track, in side of milepost B. 116, N. 45; spike.....	41.35
Milepost B. 116, 0.4 mile east of; road crossing.....	38.0
Walla Watta, road crossing at station; top of rail.....	34.4
Walla Watta, about 700 feet east of station, north side of track, in side of milepost B. 115, N. 46; spike.....	34.74
Pinetown, about 1 mile south of station, in northeast corner of railroad crossing, in top of pine stump; copper nail.....	34.44
Pinetown, 35 feet northeast of station, in northeast corner of railroad crossing; iron post stamped "P. T. Sta. No. 143".....	43.082
Pinetown, top of hydrant (Drainage Survey b. m. C. 25, elevation, 42.89 feet), opposite Morris store.....	43.13
Pinetown, 0.5 mile east of railroad crossing.....	32.0
Pinetown, 1.09 miles east of, 300 feet northwest of white house which sets south of track; top joint of south rail.....	30.5
Acre, at Crossing of Long Acre road over Norfolk Southern R. R.; nail in crossing signpost (Drainage Survey bench mark).....	34.1
Acre, 75 feet north of railroad crossing, 15 feet east of road, in root of 8-inch red-oak tree; copper nail.....	33.30
Acre, 0.97 mile east of, at switch to north, in base of switch signal; spike..	20.9
Acre, 2.14 miles east of, in southwest corner of trestle over canal to north; bolt.....	19.90
Terraceia, 120 feet west of road crossing, 15 feet south of railroad track; iron post stamped "17.8".....	17.829

Bizzell, Coharie, Dunn, Four Oaks, Roseboro, and Stedman quadrangles.

HARNETT, JOHNSTON, AND SAMPSON COUNTIES.

The elevations in the following list were determined by extensions from the precise-level line along the Southern Railway from Morehead. The leveling was done as follows: In Four Oaks, Dunn, and Coharie quadrangles in 1905 by T. A. Green; and in Roseboro, Bizzell, Stedman, and Coharie quadrangles in 1906 by F. L. Foust.

FOUR OAKS QUADRANGLE.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; longitude $78^{\circ} 15' - 78^{\circ} 30'$.]

From Smithfield southwest along Atlantic Coast Line to Four Oaks, thence south along highways to Blackmans Mills.

	Feet.
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".....	129.384
Four Oaks, in northeast corner of brick store of B. B. Adams, on north side; aluminum tablet stamped "211 Adj. 1903".....	211.021
Overshot, 5.6 miles northwest of; at main entrance at W. H. Graham's, north of road just west of forks; iron post stamped "175 Adj. 1903".....	174.972
Overshot, in front yard of John J. Rose; iron post stamped "174 Adj. 1903".....	174.442
From point 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".....	184.061
Beasley, at southwest corner of store and post office, on south side; iron post stamped "163 Adj. 1903".....	163.091
Beasley, 3.2 miles northwest of post office; in front yard of B. Allen; iron post stamped "120 Adj. 1903".....	120.469
Beasley, 5.9 miles northwest of; west of main road, in center of forks at signpost; iron post stamped "115 Adj. 1903".....	115.098

At Spilona.

Spilona, at southeast corner of store; iron post stamped "Prim. Trav. Sta. No. 19, 226 Raleigh".....	225.808
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At McKoy (on circuit from Four Oaks to McKoy).

McKoy, 30 feet south of center of road, in front yard of J. Marshall Lee; iron post stamped "210 Adj. 1903".....	210.674
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From 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
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DUNN QUADRANGLE.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; longitude $78^{\circ} 30' - 78^{\circ} 45'$.]

From 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".....	239.479
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From Four Oaks southwest along Atlantic Coast Line to Benson, thence east along highways to McKoy.

	Feet.
Four Oaks, 4.4 miles southwest of, west of road at crossing, 20 feet north of tracks; iron post stamped "188 Adj. 1903".....	187.599
Benson, at southeast corner on east side of hotel kept by Mrs. E. J. D. Boykin; iron post stamped "Prim. Trav. Sta. No. 21, 243 Adj. 1903".....	242.736
Benson, 3.4 miles southeast of, on west side of road at crossroads, near large walnut tree; iron post stamped "210 Adj. 1903".....	210.417
Mix, 0.4 mile west of, on east side of road at crossroads; iron post stamped "220 Adj. 1903".....	220.598
Mingo, just north of, east of road north of forks; iron post stamped "Prim. Trav. Sta. No. 22, 207 Adj. 1903".....	207.648

COHARIE QUADRANGLE.

[Latitude 35°-35° 15'; longitude 78° 15'-78° 30'.]

From Blackmans Mills west to McKoy.

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".....	201.010
Blackmans Mills post office, 0.5 mile northeast of, south of main road, just east of forks; iron post stamped "194 Adj. 1903".....	193.915

From Newton Grove south to point 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.".....	174.845
Hobton, 3.9 miles northwest of; at junction of Clinton and Goldsboro roads, 20 feet from branch crossing; iron post stamped "159 N. C.".....	158.586
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, 175 N. C.".....	174.926

From Hobton southeast 2.4 miles (single line).

Newton, 8.4 miles south of, at main road forks; iron post.....	178.081
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From 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
Hobton, 8.3 miles south of; 0.4 mile south of Plainview Church, at road forks; iron post stamped "172 N. C.".....	171.477
Hobton, 12.1 miles south of, at main forks of Clinton and Goldsboro roads, opposite James Bell's residence; iron post stamped "154 N. C.".....	154.140

From Faison Crossing north to Hill School.

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 residence of S. T. Marshborn, 20 feet west of junction; iron post stamped "152 N. C.".....	152.024

From Clinton west 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."	Feet. 91. 355
Clinton, 7.1 miles west of, road forks opposite Mount Pleasant Church; iron post stamped "173 N. C."	173. 059

From Rosin Hill southwest to Lydia.

Orange, 5.8 miles north of post office, just south of crossing of Coharie Creek, opposite residence of T. A. Jackson; iron post stamped "181 N. C."	180. 806
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STEDMAN QUADRANGLE.

[Latitude 35°-35° 15'; longitude 78° 30'-78° 45']

From 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."	167. 460
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."	177. 265
Orange, at corner of store and post office kept by C. M. Hall; iron post stamped "Prim. Trav. Sta. No. 24, 170 N. C."	170. 166
Orange, 2.9 miles north of post office, at forks of road leading to Lydia, about 0.5 mile east of Lydia, west of road, opposite residence of B. B. Lane; iron post stamped "180 N. C."	179. 695

ROSEBORO QUADRANGLE.

[Latitude 34° 45'-35°; longitude 78° 15'-78° 30']

From Clinton east to Faison Crossing.

Clinton, in front face at northeast corner of county courthouse; iron post stamped "159 N. C."	158. 516
Faison Crossing, 50 feet north of rail, in west side of county road, in line with phone post; iron post stamped "156 N. C."	155. 626

BIZZELL QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 78°-78° 15']

From 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 Goldsboro 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., described in Bulletin 562. The primary leveling was done in 1908 by E. O. Halbert.

CLARKSVILLE QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 78° 30'–78° 45'.]

From point 2.5 miles west of Nelson west along Southern Ry. 2 miles.

Nelson, 2.9 miles west of, 500 feet north of railroad, 230 feet north of highway, in east face of chimney of Tuck Nelson's 1½-story house, 18 inches above ground; aluminum tablet stamped "447".....	Feet. 446.724
North and South Carolina Junction, in front of signpost; top of switch frog..	457.5

VIRGINIA QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 78° 45'–79°.]

From State line near Virgilina, Va., west along Southern Ry. to State line near Christie, Va.

Virgilina, 2.7 miles west of, top of south head wall of railroad arch culvert over Little Bluewing Creek; aluminum tablet stamped "410".....	410.135
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Catawba, Charlotte, Concord, Derita, Matthews, Pleasant Ridge, 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, in Catawba, Charlotte, Concord, Derita, Matthews, and Statesville quadrangles. Additional leveling in Charlotte quadrangle was done in 1912 by C. W. Arnold, and all of that in Pleasant Ridge quadrangle by Arnold and F. W. Crisp in 1912.

STATESVILLE QUADRANGLE.

[Latitude 35° 30'–36°; longitude 80° 30'–81°.]

From Salisbury southwest along Southern Ry. to Glass.¹

	Feet.
Salisbury, opposite cotton mills; top of west rail.....	749.6
Sumner, in front of station; top of west rail.....	801.7
China Grove, in front of station; top of west rail.....	820.8
China Grove, 112 feet east of east rail in front of station, in northeast corner of China Grove Bank; aluminum tablet stamped "823 Adj. 1903".....	823.129
Landis, in front of station; top of west rail.....	869.8
Landis, 125 feet east of east rail opposite station, 179 feet east of Landis cotton mills, in northeast corner of Linn Bros.'s brick store; aluminum tablet stamped "876 Adj. 1903".....	876.211
Roselle, in front of station; top of west rail.....	851.5

CONCORD QUADRANGLE.

[Latitude 35° 15'–35° 30'; longitude 80° 30'–80° 45'.]

From Glass south along Southern Ry. to Concord, thence southwest along highways to Harrisburg, thence southwest along Southern Ry. to Newell, thence along highways to point 4.9 miles south of Newell.¹

Glass, in front of station; top of east rail.....	771.5
Glass, opposite station, 175 feet west of west rail, near southeast corner of post office; iron post stamped "768 Adj. 1903".....	767.726
Concord, in front of station; top of east rail.....	606.2

¹ Portion of line from Salisbury, N. C., to Yorkville, S. C.

	Feet.
Concord, south corner of county courthouse; 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 Morrison's store, in road forks; iron post stamped "615 Adj. 1903".....	615. 132
Harrisburg, in front of station; top of east rail.....	610. 1
Newell, 400 feet north of station, 100 feet east of post office, 50 feet west of road, near Southern Ry.; iron post stamped "757 Adj. 1903".....	756. 792
Newell, in front of station; top of east rail.....	761. 4
Newell, 4.9 miles south of, 200 feet south of Hickory Grove Church, in road forks; iron post stamped "784 Adj. 1903".....	784. 050

From 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
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From 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
Springville, 2.9 miles east of former post office, at summit east of crossing of Coddle Creek, 500 feet east of road forks, between road and Johnson's store; iron post stamped "720 Adj. 1903".....	720. 063

From 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
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".....	678. 386
Flows, 2.9 miles south of, junction of Monroe and Pioneer Mill roads, opposite residence of Barney Conner; iron post stamped "698 Adj. 1903".....	699. 582

MATTHEWS QUADRANGLE.

[Latitude 35°-35° 15'; longitude 80° 30'-80° 45'.]

From point 4.9 miles south of Newell along highways to point 1.5 miles south of Hickory Grove Church.¹

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
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From 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".....	767. 077
Arlington, at southeast corner of former post office, in front face; iron post stamped "641 Adj. 1903".....	641. 608
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. 1903".....	681. 840

¹ Portion of line from Salisbury, N. C., to Yorkville, S. C.

Indian Trail, 200 feet west of west rail in front of station, at southeast corner of post office; iron post stamped "696 Adj. 1903".....	Feet. 696.473
Matthews, 200 feet south of south rail in front of station, 50 feet east of Heath & Reid store, between stores; iron post stamped "731 Adj. 1903".....	730.897

CHARLOTTE QUADRANGLE.

[Latitude 35°-35° 15'; longitude 80° 45'-81°.]

From point 1.5 miles south of Hickory Grove Church southwest along highways to Pineville.

Sardis, in front of station; top of west rail.....	717.6
Sardis, 150 feet north of west rail, in front of station, near northeast corner of former post office; iron post stamped "719 Adj. 1903".....	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".....	636.543
Pineville, 400 feet east of station, 150 feet south of Reed & Crelf drug store, near southwest corner of post office; iron post stamped "571 Adj. 1903".....	571.151

From Pineville north along highway to Lodo, thence east along railroad to Charlotte.

Pineville, 4.4 miles northwest of, 225 feet southwest of Center Church, 75 feet east of road; iron post stamped "651 Adj. 1903".....	650.619
Shopton, 0.1 mile north of, 150 feet east of residence of Frank Bynum, in road forks; iron post stamped "728 Adj. 1903".....	728.116
Dixie, 200 feet north of schoolhouse, 250 feet south of store east of road, in road forks; iron post stamped "748 Adj. 1903".....	747.819
Lodo (Juneau), 1.1 miles east of, 325 feet south of crossing of Southern Ry. and county road, 300 feet west of Moore Chapel, in road forks; iron post stamped "745 Adj. 1903".....	745.453
Charlotte, in front face at northwest corner of county courthouse; aluminum tablet stamped "759 Adj. 1903".....	758.820

At Weddington Church.

Weddington Church, at northwest corner of; iron post stamped "726 Adj. 1903".....	725.445
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From Catawba River east to Moore Chapel (1.5 miles east of Juneau).

Belmont, 2.6 miles east of, 30 feet southeast of road crossing; iron post stamped "629, 1912".....	629.693
Belmont, 4 miles east of, 60 feet east of second-class road crossing, north of Southern Ry. track; chiseled square on rock ledge, marked "B. M. 660".....	660.99
Belmont, 5.4 miles east of, 600 feet west of overhead wagon bridge, 25 feet south of Southern Ry.; iron post stamped "1912, 748".....	749.158
Juneau, in front of station; top of rail.....	739
Belmont, 7.6 miles east of, 1.7 miles east of Juneau, 325 feet south of Southern Ry. crossing, 300 feet west of Moore Chapel; iron post stamped "Adj. 745, 1903".....	745.453

PLEASANT RIDGE QUADRANGLE.

[Latitude 35°-35° 15'; longitude 81°-81° 15'.]

From Lowell southeast to Catawba River.

Lowell, 1 mile southeast of, at road crossing; top of rail, marked "736.3".....	736.4
Lowell, 1.5 miles east of, 0.5 mile south of McAdensville, in northwest corner of road crossing, 20 feet north of track; iron post stamped "Prim. Trav. Sta. No. 22, 1912, 686".....	685.729

	Feet.
Mayesworth, 0.6 mile west of, at road crossing; top of rail, painted "T. P. 653.0".....	653.1
Mayesworth, at road crossing; top of rail, painted "607.5".....	607.6
Mayesworth, 0.3 mile east of, center of trestle over South Catawba River; top of rail, painted "601.0".....	601.1
Belmont, 1.5 miles west of, 250 feet east of milepost 393, at second-class road crossing, 30 feet south of center of track; iron post stamped "Prim. Trav. Sta. No. 23, 626".....	626.431
Belmont, 200 feet north of station, east side of street; iron post stamped "Prim. Trav. Sta. No. 338A, 1912, 678".....	677.780
Belmont, 1.8 miles east of, on south end of east abutment of Southern Ry. bridge over Catawba River; chiseled square, marked "B. M. 597".....	597.43

From Belmont south along highway to South Point.

Belmont, 0.4 mile south of, at forks of macadamized road; top of iron stake, painted "717.4".....	717.50
Belmont, 2 miles south of, at second-class road at residence of Mr. Lepper; nail in tree, blazed "709.27".....	709.40
South Point Church, in southeast corner of crossroads east of, 3 miles south of Belmont; iron post stamped "Prim. Trav. Sta. No. 13, 1912, 713".....	713.533

CATAWBA QUADRANGLE.

[Latitude 34° 45'-35°; longitude 80° 45'-81°.]

At Marvin Church.

Marvin Church, at southwest corner of; iron post stamped "697 Adj. 1903".....	696.763
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DERITA QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 80° 45'-81°.]

From Charlotte north along Southern Ry. to Derita, thence east along highways to Uncas.

Derita, 150 feet east of station, 100 feet east of post office, between stores; iron post stamped "816 Adj. 1903".....	816.481
Derita, 2.7 miles northeast of, 100 feet east of residence of John Reid, opposite large brick house; iron post stamped "731 Adj. 1903".....	730.862
Uncas, 400 feet east of former post office, 50 feet east of Sammond's store, near mail box; iron post stamped "765 Adj. 1903".....	765.281

From 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".....	845.984
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; iron post stamped "694 Adj. 1903".....	694.294
Hopewell, southwest corner of Presbyterian Church, front face; aluminum tablet stamped "741 Adj. 1903".....	740.768
Cowans Ford, 150 feet west of former post office, southeast corner of Presbyterian Church, front face; aluminum tablet stamped "811 Adj. 1903".....	810.901
Huntersville, in front of box car used as station; top of north rail.....	811.4
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 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

Derita and Gastonia quadrangles.

GASTON AND LINCOLN COUNTIES.

The elevations in the following list were determined by primary leveling and with the exception of those along the line Dallas to Lowell are preliminary subject to corrections which may be determined by future leveling.

An error of 0.891 foot is left at Belmont between mean value determined from Lincolnton and that adjusted from Dallas and Juneau.

The leveling was done in Derita quadrangle by C. W. Arnold, and in Gastonia quadrangle by F. W. Crisp and Arnold in 1912 and by R. H. Kilmer in 1914.

DERITA QUADRANGLE.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; longitude $80^{\circ} 45' - 81^{\circ}$.]

From old Lucia post office north along highway to Triangle. (Portion of the line from Mount Holly north and west to Iron station of Gastonia list unadjusted and closing 0.783 foot low.)

	Feet.
Mount Holly, 8 miles north of, 300 feet northeast of road forks; nail in top of pine stump, marked "B. M. 823".....	823.34
Lowesville, in southeast corner of Ed. Lowe's yard; iron post stamped "1912-785".....	785.014
Lowesville, 1.4 miles north of, 50 feet east of house, 15 feet west of road; nail in root of white-oak tree marked "B. M. 814".....	814.24
Triangle, 2.2 miles south of, 20 feet northeast of road forks; iron post stamped "818-1912".....	818.248
Triangle, 1.3 miles south of, 80 feet northwest of road forks, sign "2 miles to Barker's Ferry," in root of white-oak tree; nail marked "B. M. 793".....	793.34

GASTONIA QUADRANGLE.

[Latitude $35^{\circ} 15' - 35^{\circ} 30'$; longitude $81^{\circ} - 81^{\circ} 15'$.]

From Dallas south along Carolina & Northwestern Ry. to Gastonia, thence east along Southern Ry. to Lowell.

Dallas, at Main Street station of Carolina & Northwestern Ry., east face at north end of brick cotton mill; bronze tablet stamped "Prim. Trav. Sta. No. 1, 1912-785, Columbia 1900".....	784.526
Dallas, 1 mile south of; nail in crosstie marked "742.1".....	742.11
Dallas, 1.2 miles south of, at road crossing; nail in crosstie marked "728.9".....	728.98
Dallas, 1.6 miles south of, at center of trestle over Long Creek; nail in crosstie marked "703.0".....	703.01
Gastonia, 1.3 miles north of, 10 feet north of road crossing; nail in crosstie marked "T. P. 760.4".....	760.39
Gastonia, 100 feet north of crossing of Carolina & Northwestern Ry. and Southern Ry.; nail in tie marked "T. P. 808.3".....	808.32
Gastonia, in southwest corner of public square, 300 feet southwest of passenger station; iron post stamped "Prim. Trav. Sta. No. 3, 1906, 825, 1912" (the elevation of this bench mark was determined by a 0.4 mile single spur line; see p. 45 for another permanent bench mark at Gastonia).....	824.686
Gastonia, 0.8 mile east of, at road crossing; nail in tie painted "T. P. 818.9".....	818.94

Gastonia, 1.9 miles east of, northeast corner of road crossing, 10 feet east of center of road, 30 feet north of center of track; iron post stamped "Prim. Trav. Sta. No. 20, 1912-825".....	Feet. 824.712
Gastonia, 2.7 miles east of; top of rail at second-class road crossing, marked "806.1".....	806.2
Lowell, 100 feet west of station, 15 feet west of center of road, 40 feet north of center of main track; iron post stamped "Prim. Trav. Sta. No. 21, 770-1912".....	770.182
From Lincolnton southeast along Seaboard Air Line Ry. to Mount Holly, thence south along highway to Belmont. (Unadjusted double line closing 0.891 foot low at Belmont.)	
Lincolnton, east side at north end of county courthouse; bronze tablet stamped "869 Columbia 1900".....	868.315
Lincolnton, 2 miles southeast of, 200 feet east of second-class road crossing, opposite milepost 217, in top of section post No. 26-25; nail marked "B. M. 940".....	940.33
Lincolnton, 3.1 miles southeast of, 40 feet northeast of Seaboard Air Line Ry. track, 2,000 feet southeast of wagon bridge over railroad; iron post stamped "Prim. Trav. Sta. No. 4, 1912-946".....	946.218
Lincolnton, 4.3 miles southeast of, at Miller's Siding; bolt in top of switch, marked "B. M. 923".....	922.52
Lincolnton, 5.5 miles southeast of, 60 feet east of road crossing; spike in base of telephone pole marked "B. M. 929".....	929.34
Lincolnton, 6.2 miles southeast of, between wagon road and Seaboard Air Line Ry.; spike in base of telephone pole, marked "B. M. 895".....	894.93
Iron station, in southwest corner of Methodist Church yard; iron post stamped "Prim. Trav. Sta. No. 5, 1912-896".....	896.019
Iron station, 1.3 miles southeast of, 100 feet northwest of road crossing; spike in base of signboard marked "B. M. 887".....	887.25
Iron station, 2.4 miles southeast of, spike in base of milepost W. 210, marked "B. M. 878".....	878.03
Iron station, 3.4 miles southeast of, 180 feet northwest of second-class road crossing; spike in base of milepost "W. 209" marked "B. M. 904".....	903.96
Alexis, southeast corner of C. S. Abernethy's store; iron post stamped "886 1912".....	885.716
Alexis, 1.2 miles southeast of; spike in base of milepost W. 207, marked "B. M. 848".....	848.42
Alexis, 2.3 miles southeast of; spike in base of signpost marked "Sta. one mile," marked "B. M. 829".....	829.10
Stanley, in northwest corner of John Shelton's yard; iron post stamped "Prim. Trav. Sta. No. 10, 1912 852".....	852.052
Stanley, 1.1 miles southeast of; spike in base of signpost marked "Sta. 1 mile," marked "B. M. 815".....	815.23
Stanley, 2.1 miles southeast of, in middle of rack for extra rail, at milepost "W. 203," in top of; nail marked "B. M. 759".....	759.23
Stanley, 3.2 miles southeast of, 600 feet southeast of milepost "W. 202," south side of track; chiseled square on large boulder, marked "B. M. 718".....	717.76
Stanley, 3.9 miles southeast of, 30 feet southeast of road crossing; iron post stamped "Prim. Trav. Sta. No. 11, 1912, 712".....	712.187
Stanley, 6.7 miles southeast of, 300 feet southeast of trestle, south side of track; point of rock marked "S. A. L. B. M. 628" (Seaboard Air Line Ry., bench mark 575.08).....	627.42

Mount Holly, 200 feet southwest of Main Street crossing, at corner of W. L. Tucker's house; iron post stamped "Prim. Trav. Sta. No. 12, 1912, 621".....	Feet. 620.740
Mount Holly, 1.2 miles south of, west end of south abutment of wagon bridge over Ryans Creek; chiseled square marked "B. M. 587".....	587.09
Mount Holly, 2.5 miles south of, 150 feet south of road forks, 15 feet west of road; in top of large oak stump; nail marked "B. M. 733".....	732.66
Mount Holly, 3.3 miles south of, 600 feet northwest of St. Mary's College, 40 feet northwest of road forks; iron post stamped "735 1912".....	734.841
Belmont, 200 feet north of station, east side of street; iron post stamped "Prim. Trav. Sta. No. 338A, 678, 1912".....	676.889
Adjusted elevation (b. m. reset).....	(677.294)

From Mount Holly north along highways to Triangle, thence west along highway to Iron station. (An error of 0.783 foot was adjusted in this line but subdivided by two intermediate junction points.)

Mount Holly, 2 miles north of, 60 feet northeast of schoolhouse, 15 feet east of center of road; nail in root of white oak tree, marked "B. M. 712".....	712.40
Mount Holly, 2.9 miles north of, 20 feet northeast of road forks, 600 feet east of Hebron Church; iron post stamped "730 1912".....	729.739
Old Lucia, 2.7 miles south of, at foot of grade, east side of road; chiseled square on rock, marked "B. M. 739".....	739.53
Old Lucia, 0.8 mile south of, 15 feet northeast of road forks; iron post stamped "774 1912".....	774.355
Old Lucia, at southwest corner of Mr. Stroope's store; iron post stamped "Prim. Trav. Sta. No. 242, 1912, 819".....	818.810
Triangle, 0.8 mile west of, 30 feet east of road forks; spike in base of persimmon tree, marked "B. M. 808".....	808.97
Triangle, 1.6 miles west of, 30 feet southwest of crossroads; spike in base of pine stump, marked "B. M. 813".....	813.62
Triangle, 3 miles west of, in triangle at road forks; iron post stamped "Prim. Trav. Sta. No. 8, 1912, 797".....	798.149
Triangle, 4.1 miles west of, 140 feet west of milepost "Lincolnton 13 miles" north of road; nail in root of oak tree, marked "B. M. 765".....	766.39
Triangle, 5.9 miles west of, 180 feet northwest of church, 30 feet southeast of crossroads; nail in root of small tree, marked "B. M. 908".....	909.99
Triangle, 6.1 miles west of, in triangle at road forks; iron post stamped "Prim. Trav. Sta. No. 7, 1912, 898".....	899.460
Triangle, 7.3 miles west of, at top of hill, south side of road; nail in root of red-oak tree, marked "B. M. 858".....	860.05
Triangle, 8.4 miles west of, south of road, 100 feet west of house; iron post stamped "Prim. Trav. Sta. No. 6, 1912, 757".....	758.980
Triangle, 9.6 miles west of, southeast corner of J. E. Reinhardt's yard; nail in root of oak tree, marked "B. M. 866".....	867.73
Triangle, 10.7 miles west of, 0.8 mile northeast of Iron station 25 feet northwest of road forks; nail in root of oak tree, marked "B. M. 846".....	848.09

From Stanley east along highway to old Lucia post office.

Stanley, 1 mile northeast of, in root of oak tree 6 inches in diameter; copper nail marked "B. M. 802".....	801.82
Stanley, 2.1 miles northeast of, in southeast abutment of iron bridge over Stanley Creek; chiseled square marked "B. M. 663".....	662.68
Stanley, 3.2 miles northeast of, in southeast corner of B. F. Carpenter's house, 400 feet north of road; bronze tablet stamped "795".....	794.643
Stanley, 4 miles northeast of, in top of cedar stump east of road; copper nail marked "B. M. 697".....	696.46

	Feet.
Stanley, 5 miles northeast of, 10 feet west of road at deserted cabin, in root of walnut tree 2 feet in diameter; copper nail marked "B. M. 676".....	675.29
Stanley, 6 miles northeast of, 1,400 feet north of L. Eddleman's house, 5 feet west of road, in boulder 4 by 9 inches; bronze tablet stamped "767".....	766.716
Lucia, southwest corner of Stroope's store; iron post stamped "Prim. Trav. Sta. No. 242, 819".....	818.810

From Stanley northeast along highway.

Stanley, 1 mile northeast of, 5 feet east of road, in top of white-oak stump 8 inches in diameter; copper nail marked "B. M. 823".....	822.54
Stanley, 2 miles northeast of, 10 feet east of road, in base of telephone pole; copper nail marked "B. M. 828".....	827.40
Stanley, 3 miles northeast of, at deserted cabin, 10 feet west of road, in top of black-oak stump 3 feet in diameter; copper mail marked "B. M. 837".....	836.68
Stanley, 4 miles northeast of, 20 feet east of road, in oak stump 2 feet in diameter; copper nail marked "B. M. 824".....	823.95
Stanley, 5 miles northeast of, opposite Meripposi (Medisposia or Meriposa) store, 20 feet east of road, in base of black-oak tree 2 feet in diameter; copper nail marked "B. M. 708".....	708.20
Stanley, 6 miles northeast of, at forks of road, in J. F. Reinhart's barn yard, in northeast corner of concrete water trough; bronze tablet stamped "P. B. M. 813".....	813.096
Stanley, 7 miles northeast of, east side of road, in root of west side of black-oak tree; copper nail marked "B. M. 777".....	776.76
Stanley, 8 miles northeast of, 100 feet south of road, in east root of persimmon tree; copper nail marked "B. M. 738".....	737.93
Stanley, 9 miles northeast of, south of road, in top of pine stump 1 foot in diameter; copper nail marked "B. M. 800".....	799.74
Stanley, 10 miles northeast of, south of road, in root of pine stump 8 inches in diameter; copper nail marked "B. M. 792".....	791.94
Triangle, 0.8 mile west of, 30 feet east of road forks, in base of persimmon tree; copper nail marked "B. M. 809".....	808.97
Triangle, in pine tree; copper nail.....	824.22
Triangle, 1.3 miles south of, 80 feet northwest of road forks, sign "2 miles to Barkers Ferry," in root of white-oak tree; nail marked "B. M. 793".....	793.34

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 1912 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.

[Latitude 35°-35° 15'; longitude 81° 30'-81° 45'.]

From Blacksburg, S. C., north along Southern Ry. 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 & Son's store, in east face of southeast brick pillar; aluminum tablet stamped "850"	Feet. 850. 084
Patterson Springs, in north face of northeast brick pillar of station; aluminum tablet stamped "904-1900"	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"	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 tablet stamped "877"	876. 760
Boiling Springs, 3.4 miles southwest of, on road to Gaffney, 200 feet west of iron bridge over Broad River, north edge of road, in solid rock bluff; aluminum tablet stamped "650"	649. 632
Byarsville, 1.1 miles northwest of, 0.4 mile northwest of Humphrey's gin, junction of second-class road southwest, northwest angle of forks; iron post stamped "870"	869. 673

KINGS MOUNTAIN QUADRANGLE.

[Latitude 35°-35° 15'; longitude 81° 15'-81° 30'.]

From Bethany, S. C., northwest to Kings Mountain, thence southwest along Southern Ry. to Grover.

Bethany, S. C., 5.1 miles north of, McGill's store, 15 feet east of Yorkville and Kings Mountain road, immediately in gap of Kings Mountain Ridge, in rock outcrop; aluminum tablet stamped "1040"	1, 040. 246
Kings Mountain, 2.1 miles south of, junction of Kings Mountain-Yorkville road and road leading southeast to Clover, S. C., in road fork; iron post stamped "953"	952. 991
Kings Mountain, 200 feet northwest of station, in front of Mountain View Hotel, 15 feet south of entrance to office; iron post stamped "979"	978. 488
Kings Mountain, 3.4 miles southwest of, 0.2 mile south of second-class road crossing, rock culvert under railroad, southeast corner; aluminum tablet stamped "960"	959. 758
Grover, corner of Railroad Avenue and Stonewall Street, 1.5 feet southwest corner of C. F. Hambright's brick store at south side; aluminum tablet stamped "880"	879. 840

LINCOLNTON QUADRANGLE.

[Latitude 35° 15'-35° 30'; longitude 81° 15'-81° 30'.]

From Lincolnton southwest along Seaboard Air Line Ry. to Stubbs.

Lincolnton, 2.7 miles west of, 4 feet south of south rail, in rock; aluminum tablet stamped "838"	838. 501
Crouse, 4.3 miles west of Lincolnton, 100 feet north of north track at station, southwest corner of H. E. Hefner's grocery store, in brick wall; aluminum tablet stamped "855"	855. 510

Crouse, 2.9 miles west of station, near road crossing, 75 feet north of north track, in brick chimney in south wall of J. H. Black's house; aluminum tablet stamped "925"	Feet. 925. 143
Cherryville, 0.8 mile west of, 100 feet south of south track, in north wall of stone chimney at east side of J. Beard's house; aluminum tablet stamped "908"	908. 620
Waco, in front of station; point on signal post.....	917. 18
Waco, 0.9 mile west of, 125 feet south of south track, in brick chimney of house, west side of north wall; aluminum tablet stamped "896."	895. 904

From 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"	952. 052
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"	1,001. 160

From Lincolnton west along highway to Fallston, thence southeast to Waco.¹

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; root of large oak tree.....	1,014. 21
Flay, 2 miles east of, on right-hand side of road going toward Flay, 30 feet south of bridge over Indian Creek, 75 feet north of road forks going to Newton; iron post stamped "845"	844. 854
Flay, in forks of main road leading south direct to Cherryville, in southwest corner of forks, on bank opposite Childers & Beam store; iron post stamped "1050"	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"	1,001. 003
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 of Fallston-Waco road; iron post stamped "985"	985. 230
Turner's store, 1 mile south of, in front of house, in root of aspen tree; nail.	1,006. 12

From Kings Mountain northeast along Southern Ry. 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

¹ An excessive error has been distributed in this line.

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".....	Feet. 874. 633
Bessemer City, 6.4 miles north of, 30 feet south of old house in forks of 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.

[Latitude 35° 15'-35° 30'; longitude 81° 30'-81° 45'.]

From Stubbs southwest along Seaboard Air Line Ry. to Shelby.

Shelby, south side of county courthouse, near fountain; iron post stamped "Prim. Trav. 895".....	894. 980
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Abingdon, Asheville, Morganton, Mount Mitchell, and Roan Mountain quadrangles.**BUNCOMBE, BURKE, CALDWELL, CLEVELAND, HAYWOOD, McDOWELL, MADISON, 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 Morganton 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. Many bench marks set in 1896 are stamped 10 feet too high, the field work having been based on an assumed elevation.

ABINGDON QUADRANGLE.

[Latitude 36° 30'-37°; longitude 81° 30'-82°.]

From Damascus, Va., south along Virginia-Carolina and Laurel railways to Laurel Bloomery, Tenn., thence east along highways to Little Horse Creek, thence north to point 3.1 miles northeast of Konnarock, Va. (portion of line).

Laurel Bloomery, 4.3 miles east of, at top of Cut Laurel Gap, 8 feet north of road, 100 feet south of house, just to east of Tennessee-North Carolina state line, on ledge of granite; chiseled oval, marked "3747".....	Feet. 3, 746. 03
Laurel Bloomery, 6 miles east of, 3 feet north of road, about 0.5 mile 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 feet south of creek crossing, 3 feet east of road; cross on ledge of rock, marked "3585".....	3, 584. 39
Laurel Bloomery, 11.9 miles east of, on top of Big Spring Mountain, 6 feet north of road, in ledge of limestone; bronze tablet stamped "3920".....	3, 919. 332
Apple Grove, 1 mile east of post office, 20 feet east of road forks to north, north of road; cross on ledge of rock, marked "2996".....	2, 995. 34
Apple Grove, 2.3 miles east of, 200 feet northwest of road forks, near Mr. Hamm's house, 225 feet north of Little Horse Creek, 6 feet north of road; cross on rock, marked "2949.5".....	2, 948. 85

Apple Grove, 2.3 miles east of, at junction of two prongs of Little Horse Creek, 300 feet north of forks to east, 6 feet above level of road, 6 feet north-east of road near Mr. Hamn's house, set in rock ledge; aluminum tablet stamped "2945".....	Feet. 2,944.672
Little Horse Creek, 2.7 miles north of, on top of mountain, 3 feet east of road forks to northeast; cross on rock ledge, marked "3747".....	3,746.59
Little Horse Creek, 3.7 miles north of, about 0.5 mile from base of north side of mountain, 4 feet east of road, about 0.25 mile southwest of Apple Grove Church; cross on rock, marked "3304.7".....	3,304.13
Little Horse Creek, 4.7 miles north of, at forks of road near junction of Big Horse Creek and Mud Fork, near Bill Miller's house, 10 feet east of road to north, 16 feet northeast of road forks; cross on ledge of rock, marked "2953".....	2,952.34

ROAN MOUNTAIN QUADRANGLE.

[Latitude 36°-36° 30'; longitude 82°-82° 30'.]

At Hunt Dale.

Hunt Dale, 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".....	2,039.206
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From Hunt Dale east to Rock Creek near Red Hill.

Brummett, 0.2 mile east of, 20 feet to left of creek, under northwest corner of church; on top of corner stone.....	2,106.29
Herrell, 1.7 miles southwest of, 200 feet south of Widow Street's house, 25 feet from right bank of Rock Creek, on top of boulder; chiseled circle....	2,292.92

From Red Hill north up Rock Creek to Magnetic City.¹

Magnetic City, 0.35 mile north of, in side of boulder fronting road; aluminum tablet stamped "2805 Ash".....	2,804.148
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From Red Hill east along highway to Bakersville, thence southwest to Micaville.

Bakersville, left side of hall entrance to county courthouse, 3 feet from floor; aluminum tablet stamped "2471 Ash".....	2,469.866
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From 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.....	4,161.29
Spear, mouth of Henson Creek, in rock ledge; bronze tablet stamped "2840 Ash".....	2,838.831

MORGANTON QUADRANGLE.

[Latitude 35° 30'-36°; longitude 81° 30'-82°.]

From Woodlawn east to North Cove.

North Cove, Avery, 2.5 miles northeast of, 200 feet south of fork of Linville Falls and Morganton roads, 10 feet west of center of road; iron post stamped "1596 Ash".....	1,595.635
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From Spruce Pine northeast to Altamont.

Altamont, 1 mile southwest of, at road fork near Pisgah Church; iron post stamped "3407 Ash".....	3,406.790
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¹ Part of a line to Unicoi in which an excessive error was distributed.

From Marion southeast to Dysortville, thence north to Bridgewater.

Sinclair's mill, on south side of Muddy Creek, in rock; aluminum tablet stamped "1198 Ash".....	Feet. 1, 196. 838
Dysortville, in chimney on west side of Dr. Simmon's house; aluminum tablet stamped "1264 Ash".....	1, 263. 692
Hutchin's store, Hutchin's house at fork of Morganton and Bridgewater roads, in west side of large rock in chimney; bronze tablet stamped "1257 Ash".....	1, 257. 597
Bridgewater, 0.4 mile east of railroad station, in bridge seat at west end of bridge over Muddy Creek; copper bolt stamped "1091 MC".....	1, 089. 549

From 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".....	1, 184. 369
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From Dysortville southeast along highway to Casar, thence north via Camp Creek and Enola to Morganton.

Fairview Church, north of road at top of hill, in foundation on west side of building; bronze tablet stamped "1247 Ash".....	1, 246. 892
Hodge, 300 feet east of former post office, in large boulder south side road; bronze tablet stamped "1135 Ash".....	1, 134. 514
Casar, 3.5 miles northeast of, 100 yards south of stream, in foundation stone of Olive Grove Church, at southwest corner; aluminum tablet stamped "1193 Ash".....	1, 192. 491
Jacob Fork, 1.25 miles north of, on east side of road opposite small house, in rock ledge; copper bolt stamped "1270 Ash".....	1, 269. 528
Morganton, 5.4 miles south of, opposite walnut tree, in large rock east of road at stream; bronze tablet stamped "1204".....	1, 203. 097
Morganton, northwest corner of north portico of county courthouse; bronze tablet stamped "1182 MC".....	1, 180. 774

From Bridgewater north to Piedmont Springs.

Linville's store, 250 feet west of, 15 feet north of center of road; iron post stamped "1365 Ash".....	1, 363. 973
Joy, 1 mile northeast of post office, in northwest angle of crossroads; iron post stamped "1198 Ash".....	1, 197. 225
Piedmont Springs, 0.25 mile south of hotel, 10 feet west of road, 90 feet south of ford of Upper Creek; aluminum tablet stamped "1217 Ash".....	1, 216. 584

From Joy northeast to Lenoir, thence south-southwest via Hartland to Morganton.

Collettsville, 1.5 feet east of southeast corner of Moore's store; iron post stamped "1098 Ash".....	1, 097. 028
Lenoir, west front face of county courthouse, in brick water table 2.5 feet above ground and 6.75 feet north of southwest corner of building; aluminum tablet ¹ stamped "1182".....	1, 181. 725
Gamewell, on opposite side of road from former post office, 2 feet west of northwest corner of building; iron post stamped "1078 Ash".....	1, 077. 061
Hartland, 1 mile southwest of, in front of schoolhouse, in root of black-oak tree; nail.....	1, 168. 01
Hartland, 1,000 feet west of former post office, in angle of Courtney's store building; iron post stamped "1195 Ash".....	1, 194. 431
Catawba River Bridge, 10 feet southeast of lower corner of east end; cross cut on stone, stamped "1019".....	1, 018. 35

¹ Set July 19, 1909, by J. T. Montgomery.

From Morganton to Insane Asylum (single spur line).

Feet.

Morganton, in front of Southern Railway station; top of north rail.....	1, 110. 1
Insane Asylum; floor of cupola.....	1, 330. 3

MOUNT MITCHELL QUADRANGLE.

[Latitude 35° 30'–36°; longitude 82°–82° 30'.]

From Azalea southwest to Resthaven, thence southeast 4 miles (single spur line).

Resthaven, 4 miles southeast of, in fork of old Fort and Fairview roads, 20 feet from center of either road; iron post stamped "2404 Ash" (probably destroyed).....	2, 403. 086
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From 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".....	1, 436. 095
Byers Fork, 500 feet west of Dougherty's mill on Little Crooked Creek, 20 feet north of road, in solid rock; copper bolt stamped "1534 Ash".....	1, 533. 466
Broad River, 600 feet south of fork of Old Fort and Black Mountain roads, 100 feet south of ford of Broad River, 10 feet west of center of road; iron post stamped "2517 Ash".....	2, 516. 386

From 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".....	1, 280. 619
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From Marion north via Woodlawn to Sprucepine.

Woodlawn, 0.25 mile north of post office, at Armstrong Creek, in center of triangle formed by forks of road; iron post stamped "1395 Ash".....	1, 393. 977
Mica, 100 feet south of post office, 30 feet east of center of road, in solid rock; aluminum bolt stamped "2657 Ash".....	2, 656. 719
Sprucepine, 0.25 mile north of, on east end of south pier of highway bridge over North Toe River; copper bolt stamped "2511 Ash".....	2, 510. 695

From 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".....	2, 503. 690
Burnsville, 2 feet west of south entrance to county courthouse, ¹ alumi- num tablet stamped "2817 Ash".....	2, 816. 678
Bald Creek, 0.25 mile east of post office, 10 feet north of center of road, in rock; copper bolt stamped "2555 Ash".....	2, 554. 676

From 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".....	2, 675. 172
Celo, 6 miles south of, 100 feet south of small cabin and 50 feet west of stream flowing northeast, west of road at fork, in rock ledge; aluminum tablet stamped "2848 Ash".....	2, 847. 208

From Burnsville south up Cane River to point 3.8 miles south of Pensacola (single spur line).

Pensacola, in foundation stone at southwest corner of Baptist Church; aluminum tablet stamped "2858 Ash".....	2, 857. 825
Pensacola, 3.8 miles south of, 0.2 mile south of boundary fence of Murchi- son property, 300 feet north of old mill, in top of ledge of rock west of road; aluminum tablet stamped "3113 Ash".....	3, 112. 373

¹ Courthouse torn down and tablet removed in 1908.

From Ivy southeast to Barnardsville (single spur line).

Barnardsville, 20 feet south of Ivy River, in foundation stone of Vurlison's store; aluminum tablet stamped "2186 Ash".....	Feet. 2,184.867
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From Burnsville north via Daybook to Hunt Dale.¹

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.....	2,295.3
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From Spear south to Hunters Chapel (near Ingalls).

Spear, 2.34 miles south of, west of road, 100 feet west of North Toe River, 50 feet south of road intersection, on rock ledge; chiseled cross in circle..	2,786.74
Hunters Chapel, 100 feet south of, 15 feet north of road, in root of small red-oak tree; nail.....	2,854.61

ASHEVILLE QUADRANGLE.

[Latitude 35° 30'-36°; longitude 82° 30'-83°.]

At Asheville.

Asheville, Federal Building, in wall on east side of south entrance to post office; aluminum tablet stamped "2210 Ash".....	2,208.412
Asheville, 500 feet east of milepost 141, in pedestal block at northeast corner post of train shed, 19.3 feet north of north rail; bronze tablet stamped "1986 A".....	1,984.524

From Asheville south to Sandy Bottom.

Asheville, Southern Ry. station, opposite ticket office window; top of nearest rail.....	1,984.6
Asheville, southeast corner of iron highway bridge over French Broad River, abutment pier, 15 feet from center of roadway; chiseled square inside circle.....	1,980.52
Carriers Springs, 42 feet from former post office, at crossing of Southern Ry. (Murphy branch); top of rail.....	2,138.7
Asheville, 3 miles southwest of, in southeast corner of abutment pier of highway bridge over Hominy Creek; copper bolt stamped "U. S. G. S. 2002 Ft. B. M.".....	1,992.138
Sandy Bottom, just north of, 150 feet beyond bridge over Bent Creek, west of road, in large rock; copper bolt stamped "U. S. G. S. 2022".....	2,011.570

From Skyland north along Southern Ry. to Biltmore.

Buenavista, opposite mail-bag holder; top of east rail.....	2,233.00
Biltmore, northeast corner of brick platform at railroad station, on top of square stone; chiseled cross in circle.....	1,992.96

From Asheville west along Southern Ry. (Murphy branch) to Waynesville.

Asheville, highway bridge across French Broad River, on end of east wing of abutment at north end of bridge; marked point.....	1,980.28
Hendersonville road, 0.25 mile east of fork of, midway between two grade crossings, on south edge of highway, in fence corner; iron post stamped "2082 A".....	2,080.705
Turnpike, east of branch flowing into Hominy Creek, just south of switch; copper bolt in rock on north edge of highway, stamped "2259 A".....	2,257.546
Canton, 30 feet south of railroad, 25 feet east of highway, at east end of railroad bridge over Pigeon River; iron post ² stamped "2587 A" (elevation doubtful).	
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

¹ Excessive error distributed in this line.² Nov. 6, 1909, reported reset 3 to 8 feet higher.

From Tuscola north to Crabtree Creek (single spur line).

Pigeon River, bridge over, at southwest corner of pier at east end; chiseled cross.....	Feet. 2, 486. 62
Crabtree, 2.8 miles east of, 525 feet east of road fork at brick church, in boulder 10 feet north of center of road; aluminum bolt stamped "2610 A".....	2, 609. 066

From 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 of Crabtree Creek; iron post stamped "2452 A".....	2, 450. 957
Fines Creek, 50 feet north of former post office, 20 feet south of center of road; iron post stamped "2601 A".....	2, 600. 499

From Alexander west via Leicester to Sandymush (single spur line).

Alexander, 310 feet west of station, 11.1 feet north of north rail of main track, in stone; copper bolt stamped "1796 Ash".....	1, 794. 537
Leicester, 0.25 mile west of, at road forks northeast to Alexander and west to Sandymush, in stone north of road; aluminum bolt stamped "2106 Ash".....	2, 105. 069
Leicester, 2 miles west of, 300 feet east of Mr. Reynolds's residence, in stone at road fork; aluminum bolt stamped "2157 Ash".....	2, 155. 542
Sandymush, 500 feet east of Union Church, 10 feet north of center of road, in stone; aluminum tablet stamped "2251 Ash".....	2, 250. 039

From Alexander northeast to Mars Hill, thence southeast to Ivy (connecting Mitchell quadrangle levels).

Alexander, 1.01 miles northeast of, highway bridge over Flat Creek, on west end of south abutment; chisel mark.....	1, 770. 78
Alexander, 4.5 miles northeast of, 2.5 miles south of Jupiter, in road fork; iron post stamped "2133 A".....	2, 131. 708
Ivy River, 20 feet north of right bank, 0.25 mile below Eller Pond, 200 feet above mouth of Whiteoak branch, in stone; aluminum bolt stamped "1848 A".....	1, 847. 342
Mars Hill, 0.5 mile northeast of, 10 feet west of center of road; iron post stamped "2417 A".....	2, 415. 594
Ivy, 70 feet southeast of southeast corner of post office, on south side of road; iron post stamped "2084 Ash".....	2, 084. 900

From Marshall north to Walnut Run (single spur line).

Marshall, in wall at southeast corner of county courthouse; bronze tablet stamped "1646 A".....	1, 645. 193
Marshall, 5.26 miles north of, 0.5 mile north of Walnut Run post office, 0.5 mile south of road fork, 350 feet north of dwelling west of road, 10 feet west of center of road; aluminum bolt stamped "2143 A".....	2, 141. 995

From 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".....	1, 791. 950

From point 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"...	Feet. 2,002.645
Little Creek, 2 miles west of post office, in boulder 5 by 7 by 4 feet; aluminum bolt stamped "2636 A".....	2,635.083

From Hot Springs south via Bluff and Lee to Spring Creek (single spur line).

Hot Springs, southeast corner of east abutment of bridge over Spring Creek; copper bolt stamped "1326 A".....	1,325.026
Lee, 2.18 miles south of, 0.25 mile north of road forks, 500 feet northeast of ford of Spring Creek, 10 feet southeast of center of road, in sandstone; aluminum bolt stamped "2237 A".....	2,235.818
Spring Creek, 2.5 miles south of post office, 50 feet south of road forks, 10 feet west of center of road, in stone; aluminum bolt stamped "2473 A"..	2,472.358

From 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, in stone; aluminum tablet stamped "2766 A".....	2,764.472
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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 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.

[Latitude 35°-35° 30'; longitude 82° 30'-83°.]

From 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 bolt stamped "U. S. G. S. 2184".....	Feet. 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 Ry. station; top of rail.....	2,091.1
Skyland, in front of station; top of rail.....	2,253.8

From 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 near south end, on east side of lane between house and stable; copper bolt stamped "U. S. G. S. 2263"..	2,255.195
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From 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
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From 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 Feet.
Pigeon River, in rock north of river; copper bolt stamped "2737-A" 2, 735. 623

From Sonoma south up West Fork of 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
"2931-A" 2, 929. 519

From point 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 rock; copper bolt stamped "3127-A" 3, 125. 570

At Waynesville.

Waynesville, 135 feet north of station, 40 feet east of main track; iron post
stamped "2638-A" 2, 637. 208

From 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" 2, 156. 181

From 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 2, 199. 19

Henderson-Transylvania county line, 300 feet north of boundary, 300 yards
from the old Reese mill, 75 yards from point where road bends to south,
100 yards from house east of road, 16 feet from center of road, in rock
north of road; copper bolt stamped "2209" 2, 198±

Brevard, at entrance to courthouse, west end of bottom step; chiseled
cross 2, 227. 09

Brevard, southeast corner of courthouse, in corner stone; bronze tablet
stamped "2239" 2, 228. 888

From Brevard southeast to Wilson Bridge, thence northeast to point near Bowman Bluff.

Davidson River, on bottom stone step of post office on west side; cross mark 2, 100. 55

Calhoun, in southwest corner of foundation of Wilson's store; bronze tablet
stamped "2154" 2, 143. 360

Bowman Bluff, 1 mile west of, at sharp bend in road where it parallels river,
10 feet from center of road, west of road on river bank, in large rock; copper
bolt stamped "U. S. G. S. 2083" 2, 073. 137

From Calhoun east to Osteen.

Grange, Zackey & Rogers's store, on west end of upper stone step; mark.. 2, 097. 99

Osteen, 100 yards southeast of, north of road at bend, in rock; copper bolt
stamped "2201" 2, 190. 333

From 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" .. 2, 169. 322

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" 2, 586. 932

From 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"	East. 3, 276. 668
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From Wilson Bridge southwest to Carson Creek, thence southeast to Cox's store.

Connetsee Falls, 0.5 mile north of, 100 yards east of "Big Rock," in large rock; copper bolt stamped "2505"	2, 494. 808
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Cedar Mountain, 0.5 mile south of post office, road forks, 5 miles north of Caesars 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"	2, 684. 702
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From 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"	2, 178. 908
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From 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"	2, 614. 901
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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"	2, 974. 871
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From Rosman west up Sapphire road to Indian Creek (single spur line).

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"	2, 732. 250
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From 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"	2, 274. 651
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Sassafras Gap, 290 yards north of State line, 0.5 mile south of frame house east of road, 200 yards north of log cabin on same side of road, 100 yards south of stream crossing road to west, in large rock; copper bolt stamped "U. S. G. S. 2785"	2, 774. 360
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From 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"	1, 665. 911
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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"	1, 252. 630
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SALUDA QUADRANGLE.

[Latitude 35°-35° 30'; longitude 82°-82° 30'.]

From Fletcher southeast along Southern Ry. to State line near Tryon.

	Feet.
Brickton; crossing of public highway.....	2, 094
Naples, opposite store, in sill of switch stand; railroad spike.....	2, 077. 65
Hillgirt, opposite crossing board; west rail.....	2, 122. 9
Hendersonville, at crossing north of station; top of rail.....	2, 125
Hendersonville, on east side of Main Street, 100 feet south of Broad Street, in brick just above water table of town hall; tablet stamped "2153 Raleigh 1903".....	2, 153. 474
Flatrock, 125 feet west of railroad, northwest of station, 20 feet west of center of public road, southeast corner of John Jones's store; iron post stamped "2199 Raleigh 1903".....	2, 199. 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; ¹ iron post stamped "2084-Raleigh-1903".....	2, 083. 934
Saluda, in front of station; top of rail.....	2, 074. 4
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".....	2, 096. 172
Melrose, in front of station; top of west rail.....	1, 485. 4
Rockcliff, in front of station; top of west rail.....	1, 407. 1
Tryon, 300 feet west of post office, 150 feet north of station and railroad crossing, northeast corner of Ballinger's new store,*3 feet above ground; aluminum tablet stamped "1074 Adj.".....	1, 074. 712
Tryon, road crossing north of; top of rail.....	1, 185
Tryon, near, at State line crossing; top of west rail.....	1, 057. 9

From Fletcher southeast along highway to Hendersonville, thence northeast to Batcave, thence east to McIntyre, thence southwest to Tryon.

Hendersonville, 4 miles north of, at forks of Edneyville and Hendersonville roads; iron post stamped "2171 Raleigh 1903".....	2, 170. 692
Hendersonville, 2 miles north of, 20 feet south of forks of Blue Ridge and Edneyville roads, 500 feet east of residence of A. J. Justin, 50 feet west of store; iron post stamped "2196 Adj.".....	2, 195. 556
Edneyville, 300 feet northeast of post office, 200 feet northeast of road forks leading north and east, 100 feet north of residence of J. A. Justin; iron post stamped "2248 Adj.".....	2, 247. 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."....	1, 471. 863
Batcave, 3.2 miles east of, 0.2 mile east of Mountain View Inn, 400 feet east of bridge over Broad River, north side of road, in large granite boulder; aluminum tablet stamped "1040 Adj.".....	1, 040. 072
Chimney Rock, 4 miles east of post office, 200 feet north of second crossing of road and Broad River, 100 feet north of residence of W. M. Flynn, 100 feet south of store, north edge of road; iron post stamped "882 Adj.".....	811. 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

¹ Description furnished by U. S. Staton, resident, who reset this bench mark.

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."	Feet. 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."	1, 078. 174
Turners, 2 miles north of, 500 feet north of road forks, 60 feet east of store on hill, 15 feet west of Dimsdale gristmill, in large granite boulder on edge of road; ¹ aluminum tablet stamped "1031 Adj."	1, 030. 678
Turners, 3 miles south of, 1.4 miles south of road crossing of Green River, 150 feet south of residence of J. Jones, at summit of long hill, west edge of road; iron post stamped "1053 Adj."	1, 052. 511
Millspring, 300 feet north of former post office, 200 feet north of road crossing, 50 feet south of road forks, 50 feet north of storehouse; iron post stamped "1017 Adj."	1, 016. 522
Columbus, at southeast corner of courthouse; iron post stamped "1109 Adj."	1, 109. 199

From 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
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At and near Sandy Plains.

Sandy Plains, 5 miles southeast of, 1.5 miles north of State line, 30 feet west of Wilkin's store, 50 feet south of Walker's residence, 16 feet west of road; iron post stamped "1003 Adj."	1, 003. 010
* Sandy Plains, 20 feet west of store of Henry Flynn, 40 feet north of road crossing; iron post stamped "1019 Adj."	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 feet west of road; iron post stamped "928 Adj."	927. 921

¹ On single spur line north from Turners.

APPENDIX.

SECONDARY ELEVATIONS.

Secondary elevations from records and topographic maps of the United States Geological Survey, including altitudes of well-known summits, water-surface elevations of prominent lakes, and other useful elevations, are given below. These elevations are approximate and should not be used for accurate work.

Locality.	Quadrangle.	County.	Elevation.
Albert Mountain.....	Cowee.....	Macon.....	<i>Feet.</i> 5,207
Ammons Knob.....	do.....	do.....	3,916
Anderson Mountain triangulation station.....	Hickory.....	Catawba.....	1,547
Asbury Mountain.....	do.....	Alexander.....	1,804
Baker Mountain triangulation station.....	do.....	Catawba.....	1,812
Bald Knob.....	Wytheville.....	Alleghany.....	3,653
Bald Knob.....	Pisgah.....	Jackson-Transylvania.....	4,824
Bald of Rich Mountain.....	Cranberry.....	Watauga.....	5,369
Balsam Cone.....	Mount Mitchell.....	Yancey.....	6,645
Balsam Gap.....	Cowee.....	Haywood-Jackson.....	3,316
Barrett Mountain.....	Hickory.....	Alexander.....	1,768
Beech Mountain.....	Cranberry.....	Avery.....	5,522
Bell Coney Mountain.....	Cowee.....	Jackson.....	4,400
Big Bald.....	Mount Mitchell.....	Yancey, N. C.-Greene, Tenn.....	5,530
Big Bald.....	Pisgah.....	Haywood - Transyl- vania.....	5,340
Big Butt.....	Greeneville.....	Unicoi-Madison, N. C.- Greene-Washington, Tenn.....	4,889
Black Brothers.....	Mount Mitchell.....	Yancey.....	{ 6,620
Black Mountain.....	Cowee.....	Macon.....	6,690
Black Mountain.....	do.....	Jackson-Macon.....	3,735
Black Mountain.....	Cranberry.....	Ashe.....	4,930
Black Mountain.....	Pisgah.....	Henderson.....	4,649
Black Mountain.....	do.....	Transylvania.....	3,952
Blackrock.....	Cowee.....	Jackson.....	4,310
Blackrock.....	do.....	Jackson-Macon.....	5,854
Bluff Mountain.....	Asheville.....	Madison.....	4,355
Bluff Mountain.....	Cranberry.....	Ashe.....	4,640
Bowlens Pyramid.....	Mount Mitchell.....	Yancey.....	5,073
Bullhead Mountain.....	do.....	Buncombe.....	4,962
Camel Knob.....	Morganton.....	Rutherford.....	5,958
Carney Fork Bald.....	Cowee.....	Haywood-Jackson.....	2,124
Carpenter Knob.....	Morganton.....	Cleveland.....	5,926
Cattail Peak.....	Mount Mitchell.....	Yancey.....	1,619
Celo Mountain.....	do.....	do.....	6,609
Chalk Mountain.....	do.....	Mitchell.....	6,351
Chestnut Mountain.....	Cranberry.....	Caldwell.....	3,558
Chestnut Mountain.....	Morganton.....	Burke-Caldwell.....	2,555
Chestnut Mountain.....	Pisgah.....	Buncombe-Henderson.....	3,173
Chimney Top.....	Cowee.....	Jackson.....	3,069
Clingman Peak.....	Mount Mitchell.....	Yancey.....	4,625
Cold Spring Knob.....	Pisgah.....	Haywood.....	6,611
Conover.....	Hickory.....	Catawba.....	6,010
Corbin Knob.....	Cowee.....	Jackson-Macon.....	1,070
Cowee Bald.....	do.....	do.....	4,445
Crabtree Bald.....	Asheville.....	Haywood.....	5,085
Crabtree Mountain.....	Mount Mitchell.....	Mitchell.....	5,280
Craggy Dome.....	do.....	Buncombe.....	3,960
Cranberry Knob.....	Morganton.....	Burke.....	6,105
Crowders Mountain.....	Kings Mountain.....	Cleveland.....	4,223
Cut Laurel Gap.....	Abingdon.....	Ashe, N. C.-Johnson, Tenn.....	1,624
			3,746

Locality.	Quadrangle.	County.	Elevation. <i>Fect.</i>
Deaver View.....	Asheville.....	Buncombe.....	3,130
Devils Court House.....	Pisgah.....	Haywood - Transyl- vania.....	5,816
Doe Hill Mountain.....	Morganton.....	Mitchell.....	4,217
Doubletop Mountain.....	Cowee.....	Jackson.....	5,540
Elk Knob.....	Cranberry.....	Watauga.....	5,555
Elk Mountains.....	Asheville.....	Buncombe.....	3,190
Fairfield Lake (water surface).....	Cowee.....	Jackson.....	3,148
Firescald Mountain.....	Mount Mitchell.....	Yancey.....	4,840
Fishhawk Mountain.....	Cowee.....	Macon.....	4,765
Flattop.....	Roan Mountain.....	Yancey, N. C.-Unicoi, Tenn.....	4,954
Fodderstack Mountain.....	Cowee.....	Macon.....	4,280
Fox Knob.....	Yadkinville.....	Yadkin.....	1,590
Fryingpan Mountain.....	Pisgah.....	Haywood - Transyl- vania.....	5,450
Grandfather Mountain triangulation station.....	Cranberry.....	Caldwell-Avery-Wau- tauga.....	5,964
Grandmother Mountain.....	do.....	Avery.....	4,686
Grassy Knob.....	Asheville.....	Buncombe.....	2,710
Hanging Rock.....	Cranberry.....	Avery-Watauga.....	5,237
Hanlon Mountain.....	Asheville.....	Buncombe.....	3,430
Headquarters Mountain.....	Morganton.....	Caldwell.....	4,135
Hibriten Mountain triangulation station.....	Hickory.....	Catawba.....	2,265
Hickory.....	do.....	do.....	1,175
Higdon Mountain.....	Cowee.....	Macon.....	4,045
Highlands.....	do.....	do.....	3,823
Hightop Green Mountains.....	Mount Mitchell.....	Yancey.....	4,440
Hogback Mountain.....	Cowee.....	Jackson-Macon.....	4,950
Hog Mountain.....	Morganton.....	Burke.....	2,048
Holts Pond (water surface).....	Four Oaks.....	Johnston.....	116
Humpback Mountain.....	Morganton.....	Mitchell-McDowell.....	4,179
Iron Mountain Gap.....	Roan Mountain.....	Mitchell, N. C.-Uni- coi, Tenn.....	3,725
Jackson Knob.....	Morganton.....	Mitchell-McDowell.....	3,223
Johnson Knob.....	Pisgah.....	Henderson.....	4,540
Jone Knob.....	Cowee.....	Macon.....	4,655
Joshua Mountain.....	Pisgah.....	Transylvania.....	3,163
Jumpoff Mountain.....	do.....	Henderson.....	3,141
Kagle Mountain.....	do.....	Transylvania.....	3,687
Kings Mountain triangulation station.....	Kings Mountain.....	Cleveland.....	1,705
Laurelpatch Bald.....	Cowee.....	Haywood-Jackson.....	5,747
Little Bald.....	Dahlonega.....	Clay.....	5,030
Little Bald Mountain.....	Pisgah.....	Haywood - Transyl- vania.....	5,330
Little Fishawk Mountain.....	Cowee.....	Macon.....	4,706
Little Snowball Mountain.....	Mount Mitchell.....	Buncombe.....	4,824
Lone Bald.....	Cowee.....	Haywood-Jackson.....	6,016
Long Arm Mountain.....	Morganton.....	Burke.....	4,350
Lookingglass Mountain.....	Pisgah.....	Transylvania.....	4,000
Lovelace Knob.....	Mount Mitchell.....	Buncombe.....	4,315
Max Patch Mountain.....	Asheville.....	Madison.....	4,660
Moses Knob.....	Hickory.....	Catawba.....	2,330
Mount Guyot.....	Mount Guyot.....	Haywood, N. C.- Cocke-Sevier, Tenn.....	6,636
Mount Mitchell triangulation station (the high- est point in the State).....	Mount Mitchell.....	Yancey.....	6,711
Ogle Meadow Knobs.....	do.....	Yancey.....	5,384
Old Field Bald.....	Cranberry.....	Ashe-Watauga.....	4,939
Old Rocky Mountain.....	Cowee.....	Macon.....	4,825
Otter Knobs.....	Mount Mitchell.....	Mitchell.....	3,695
Panther Knob.....	Cowee.....	Jackson.....	4,010
Parks Mountain.....	Morganton.....	Burke.....	4,066
Pearson Knob.....	Hickory.....	Alexander.....	1,850
Phillips Knob.....	Mount Mitchell.....	Yancey.....	4,390
Pickens Nose.....	Cowee.....	Macon.....	4,905
Pilot Mountain.....	Pisgah.....	Transylvania.....	5,151
Pinnacle.....	Mount Mitchell.....	Buncombe - McDow- ell-Yancey.....	5,693
Pinnacle Mountain.....	Cowee.....	Macon.....	5,020
Pinnacle Mountain.....	Pisgah.....	Henderson.....	3,662
Pisgah Mountain triangulation station.....	do.....	Haywood-Buncombe.....	5,749
Pond Ridge.....	Morganton.....	Burke-McDowell.....	3,546
Potato Hill.....	Mount Mitchell.....	Yancey.....	6,487
Potato Knob.....	do.....	Buncombe-Yancey.....	6,419

Locality.	Quadrangle.	County.	Elevation.
Rainbow Mountain.....	Morganton.....	Burke.....	<i>Fect.</i> 2,895
Rattlesnake Cliff.....	Cowee.....	Swain.....	4,950
Rector Knob.....	Morganton.....	Burke.....	2,153
Rich Hill.....	Yadkinville.....	Surry.....	3,260
Richland-Balsam triangulation station.....	Pisgah.....	Jackson-Haywood.....	6,540
Rich Mountain.....	Asheville.....	Buncombe.....	3,535
Rich Mountain.....	do.....	Madison, N. C. Greene, Tenn.....	3,643
Rich Mountain.....	Pisgah.....	Transylvania.....	3,779
Ridgepole.....	Cowee.....	Macon.....	5,008
Roan High Bluff.....	Roan Mountain.....	Mitchell.....	6,287
Roan High Knob.....	do.....	Mitchell, N. C.-Car- ter, Tenn.....	6,313
Rocky Face.....	Hickory.....	Alexander.....	1,814
Rockyface Mountain.....	Asheville.....	Buncombe-Haywood.....	4,540
Rocky Knob.....	Cranberry.....	Caldwell.....	3,283
Rough Butt Bald.....	Pisgah.....	Haywood-Jackson.....	6,010
Round Mountain.....	do.....	Jackson.....	4,220
Round Top.....	Hickory.....	Alexander.....	1,750
Sam Knob.....	Pisgah.....	Haywood.....	6,130
Sampson Mountain.....	Mount Mitchell.....	Yancey.....	4,826
Sandymush Bald triangulation station.....	Asheville.....	Buncombe-Haywood- Madison.....	5,168
Satulah Mountain.....	Cowee.....	Macon.....	4,560
Scaly Mountain.....	do.....	do.....	4,830
Sharp Mountain.....	Pisgah.....	Transylvania.....	3,383
Sharptop Mountain.....	Cowee.....	Swain.....	3,516
Sheep Knob.....	do.....	Jackson.....	4,784
Shell Knob.....	Pisgah.....	Buncombe-Henderson.....	4,520
Sherras Gap.....	Kings Mountain.....	Cleveland.....	1,090
Shining Rock.....	Pisgah.....	Haywood.....	6,040
Shortoff Mountain.....	Cowee.....	Jackson-Macon.....	5,054
Shortoff Mountain.....	Morganton.....	Burke.....	3,127
Silver Creek Knob.....	do.....	Burke-Rutherford.....	2,838
Smathers View Mountain.....	Asheville.....	Buncombe-Haywood.....	4,203
Snaggy Bald.....	Cowee.....	Jackson.....	5,538
Snake Mountain triangulation station.....	Cranberry.....	Johnson, Tenn.-Wau- tauga, N. C.....	5,594
Snowball Mountain.....	Mount Mitchell.....	Buncombe.....	5,494
Snowbird Mountain.....	Mount Guyot.....	Cooke, Tenn. - Hay- wood, N. C.....	4,263
Spirey Mountain.....	Asheville.....	Buncombe.....	3,130
Spring Mountain.....	Hickory.....	Alexander.....	1,620
Steestachee Bald.....	Cowee.....	Haywood-Jackson.....	5,865
Stepps Gap.....	Kings Mountain.....	Cleveland.....	1,040
Stone Mountain.....	Pisgah.....	Henderson.....	3,647
Sugarloaf Knob.....	Asheville.....	Madison, N. C.-Unicoi, Tenn.....	4,540
Sugar Mountain.....	Cranberry.....	Avery.....	5,289
Tablerock Mountain triangulation station.....	Morganton.....	Burke.....	3,909
Tennessee Bald.....	Pisgah.....	Haywood-Jackson- Transylvania.....	5,622
Terrapin Mountain.....	Cowee.....	Jackson.....	4,510
The Peak.....	Cranberry.....	Ashe.....	5,195
The Peak.....	Mount Mitchell.....	Mitchell.....	3,866
Three Top Mountain.....	Cranberry.....	Ashe.....	5,029
Tom Knob.....	do.....	Watauga.....	4,293
Toxaway Lake (water surface).....	Pisgah.....	Transylvania.....	2,998
Turkey Knob.....	Cowee.....	Jackson-Macon.....	4,540
Unaka Mountain.....	Roan Mountain.....	Mitchell, N. C.-Unicoi, Tenn.....	5,258
Walker Knob.....	Morganton.....	Burke.....	2,919
Waterrock Knob.....	Cowee.....	Haywood-Jackson.....	6,400
Wells Knob.....	Yadkinville.....	Wilkes.....	1,810
Whiteside Mountain.....	Cowee.....	Jackson.....	4,930
Windingstair Knob.....	Morganton.....	Burke.....	3,473
Wolf Pen Mountain.....	Hickory.....	Catawba.....	2,137
Woods Knob.....	Mount Mitchell.....	Mitchell.....	4,248
Yadkinville.....	Yadkinville.....	Yadkin.....	960
Yeates Knob.....	Mount Mitchell.....	Buncombe-Yancey.....	6,001
Yellow Mountain.....	Cowee.....	Jackson-Macon.....	5,145
Yellow Mountain.....	do.....	do.....	5,240
Yellow Mountain.....	Mount Mitchell.....	Mitchell.....	5,330
Young Pisgah.....	Pisgah.....	Buncombe.....	4,017





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