

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 516 - 521

RESULTS OF SPIRIT LEVELING
IN FLORIDA

1911

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GEOLOGICAL SURVEY

WASHINGTON

GOVERNMENT PRINTING OFFICE

1912

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B9

no. 516-521

copy 2

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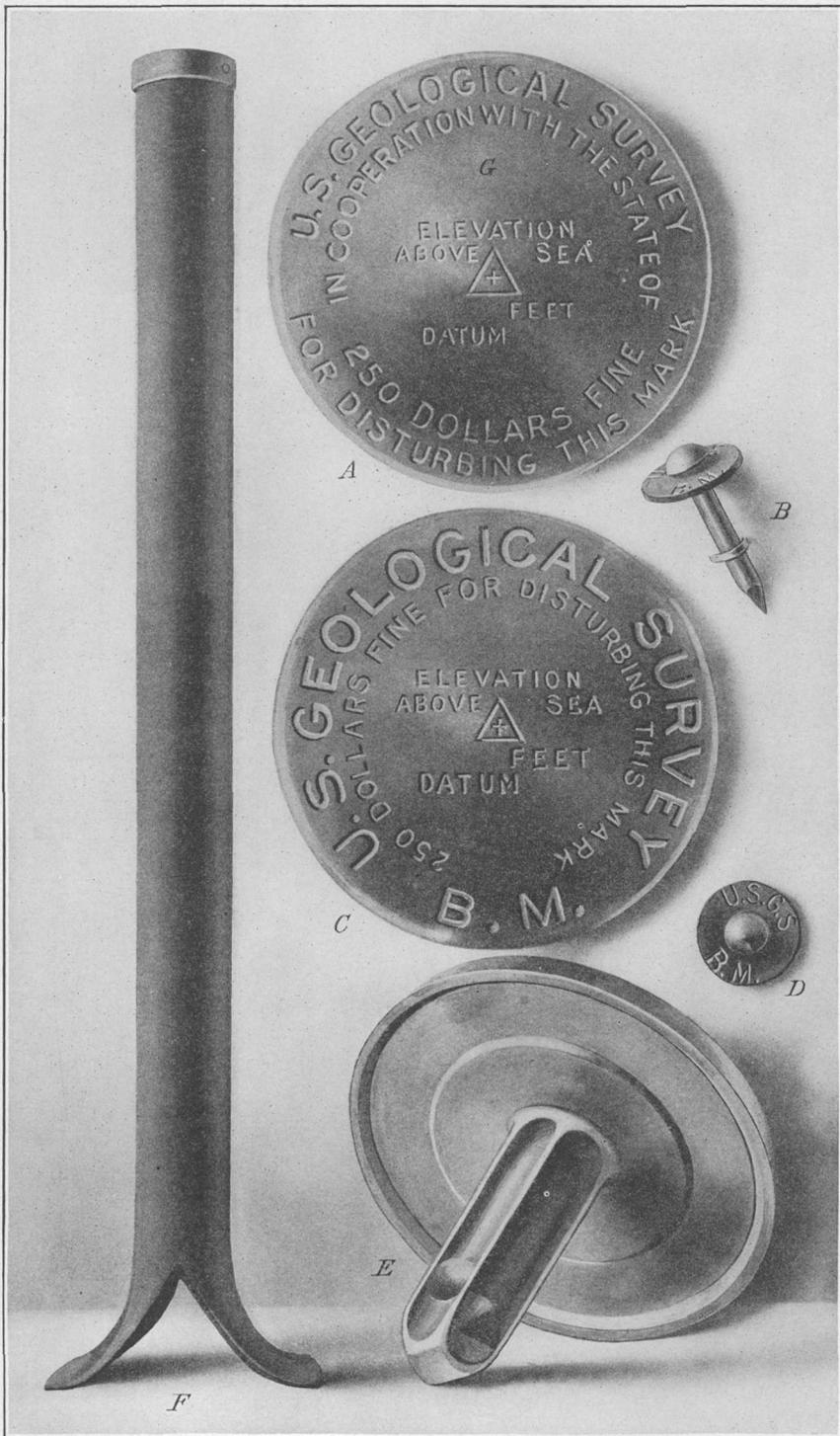
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GEOLOGICAL SURVEY BENCH MARKS.

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

RESULTS OF SPIRIT LEVELING IN FLORIDA, 1911.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Scope of the work.—All results of spirit leveling in Florida by the United States Geological Survey are included in this report, arranged by quadrangles. The elevations are based on 1903 adjustment heights of bench marks along the precise level line of the Coast and Geodetic Survey from St. Augustine to Cedar Keys and are not likely to be changed by any future adjustment.

Personnel.—The field work was done under the supervision of Frank Sutton, geographer, under the general direction of R. B. Marshall, chief geographer. Credit is given to the different levelmen in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, under the general direction of E. M. Douglas, geographer.

Classification.—No precise leveling has been done by the United States Geological Survey in this State. For primary lines standard Y levels are used; lines are run in circuits or are closed on precise lines, with an allowable closing error in feet represented by $0.05\sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given the work to maintain this standard. For circuit closures careful office adjustments are made, the small outstanding errors being distributed over the lines.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (*C* and *E*, Pl. I), $3\frac{1}{2}$ inches in diameter and one-fourth inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock, in the wall of some public building, in a bridge abutment, or in other substantial masonry structure. The second form (*F*, Pl. I), employed where masonry or rock is not accessible, consists of a hollow wrought-iron post $3\frac{1}{2}$ inches in outer diameter and 4 feet in length after being split at the bottom and expanded to 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted over the top of the post, which is set about 3 feet in the ground. A third style of bench mark with abbreviated lettering (*B* and *D*, Pl. I) is used for unimportant points. This consists of a special copper nail $1\frac{1}{2}$ inches in length driven through a copper washer seven-eighths of an inch in diameter.

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

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the lowest tides, nor is it the half sum of the mean of all the high tides and of the mean of all the low tides, which is called 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 great accuracy is desired they must extend over several years. At ocean stations half-tide level and mean sea level usually differ but little. It is assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean.

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

Topographic maps.—Maps of the following quadrangles in Florida have been published by the United States Geological Survey up to July 1, 1912. They may be obtained for 5 cents each, or \$3 a hundred, on application to the Director of the Survey at Washington, D. C.

Arredondo.
Citra.
Dunnellon.
Ocala.

Panasoffkee.
Tsala Apopka.
Williston.

PRIMARY LEVELING.

Dinner Island, Green Cove Springs, Hague, Hawthorn, Interlachen, Palatka,
Starke, and Welaka quadrangles.

ALACHUA, BRADFORD, CLAY, MARION, PUTNAM, AND ST. JOHN COUNTIES.

The following elevations were determined by primary leveling and are based on the Coast and Geodetic Survey precise leveling.

The leveling was done in 1911 by J. B. Metcalfe.

GREEN COVE SPRINGS QUADRANGLE.

Point 3.10 miles north of Rice Creek station north along railroad to Bostwick,
thence west along highways to Bannerville schoolhouse.

Bostwick, 150 feet west of, southwest corner of station, in northwest corner of crossroads, at outer corner of fence; iron post stamped "34 Prim. Trav. Sta. No. 23"-----	Feet. 34. 372
Bostwick, 1.3 miles west of, 50 feet southwest of road forks to northwest, about 600 feet east of old tramway grade; nail in root of pine tree, marked "52.5"-----	52. 49
Bostwick, 2.9 miles west of, about 0.2 mile west of creek, 15 feet southeast of culvert; nail in root of small cyprus tree, marked "36.3"-----	36. 21
Bostwick, 3.4 miles west of, in southeast corner of crossroads, about 600 feet east of one bridge over Sims Creek, and about 400 feet north of another over same creek; iron post stamped "37 Prim. Trav. Sta. No. 22"-----	36. 706
Sims Creek, center of bridge over; marked "33.4"-----	33. 4
Bostwick, 4.7 miles west of, at top of hill, 500 feet southwest of house, 10 feet north of road; nail in root of small black oak tree, marked "61.7"-----	61. 65
Bostwick, 5.7 miles west of, in angle of road forks to northwest; nail in root of small red oak tree, marked "84"-----	83. 91
Bostwick, 6.2 miles west of, in northeast corner of crossroad, at east corner of Bannerville schoolhouse; iron post stamped "89 Prim. Trav. Sta. No. 21"-----	89. 234
Bostwick east 2 miles (unchecked spur line).	
Bostwick, 1.1 miles east of, 400 feet west of second-class road forks to south, 150 feet west of fence corner, 10 feet north of road; nail in root of large pine stump, marked "24.7"-----	24. 70
Bostwick, 2 miles east of, 6 feet east of T road west, 100 feet east of creek crossing; iron post stamped "19 Prim. Trav. Sta. No. 24"-----	18. 975

HAGUE QUADRANGLE.

Point about 12 miles west of Saxton southeast along highway to a point about 2.5 miles south of New River.

New River, 200 feet south of, southeast corner of railroad station, 300 feet east of store and 75 feet northwest of northwest corner of cotton gin; iron post stamped "146 Prim. Trav. Sta. No. 73"-----	Feet. 144. 813
New River, 1 mile south of, in northeast angle of road forks to east; nail in root of large pine tree, marked "155.5"-----	153. 93
New River, 1.6 miles south of, on main Starke road, 50 feet northeast of culvert, 15 feet north of road; nail in root of large pine tree, marked "157"-----	155. 41
New River, 2.6 miles south of, in northwest corner of crossing of old tramway and road; nail in root of pine tree, marked "157.3"-----	155. 76

DINNER ISLAND QUADRANGLE.

Hastings south along highway to Roy station.

Hastings, in yard of Thomas H. Hastings' residence, near back steps of veranda, on west side of house; bottom of square cut in top of marble post (Coast and Geodetic Survey bench mark)-----	7.527
Hastings, about 300 feet south of station, in northeast corner of yard, west side of street; iron post stamped "9 Prim. Trav. Sta. No. 8"-----	9.087
Hastings, 1.2 miles south of, in southeast angle of T road south, near schoolhouse, 30 feet east of road; nail in root of pine tree, marked "11.3"-----	12. 29
Hastings, 2.8 miles south of, 400 feet southwest of large white house, 10 feet west of road; nail in top of fence post, marked "18"-----	19. 11
Hastings, 3.4 miles south of, west side of road, opposite barn, 200 feet east of road, 50 feet northwest of second-class road forks east; iron post stamped "17 Prim. Trav. Sta. No. 9"-----	18. 118
Hastings, 4.5 miles south of, at corner of wire fence, 25 feet west of road; nail in root of pine tree, marked "20.7"-----	21. 78
Hastings, 5.7 miles south of, 50 feet south of forks to southeast; 15 feet east of road; nail in root of pine tree, marked "24.6"-----	25. 63
Roy, in southeast corner of A. E. Campbell's yard, 150 feet north of railroad crossing; iron post stamped "23 Prim. Trav. Sta. No. 10"-----	23. 345

HAWTHORN QUADRANGLE.

Point 3.2 miles southwest of Putnam Hall west along highways to McMeekin.

Putnam Hall, 3.2 miles southwest of, 20 feet west of road forks, 200 feet south of lake; iron post stamped "102 Prim. Trav. Sta. No. 29"-----	102. 243
Putnam Hall, 4.4 miles southwest of, 20 feet northwest of road forks, to southeast, 8 feet north of road; nail in root of pine tree, marked "149"-----	149. 15
Melrose, 0.3 mile east of post office, in southwest corner of cross-roads, near signboard "Stark 18 mi., McMeekin, 9;" nail in root of pine tree, marked "153.7"-----	153. 61
Melrose, 1.1 miles south of, 100 feet north of road northeast to house, 150 feet northeast of drain crossing, 8 feet east of road; nail in top of stump of twin tree, marked "115.3"-----	115. 19

Melrose, 2.4 miles south of, in northwest corner of crossroads, near signboard "Interlachen 10 mi., Melrose 2½;" iron post stamped "122 Prim. Trav. Sta. No. 30"-----	Feet. 122. 249
Melrose, 3.8 miles south of, 30 feet north of road forks northwest, near signboards pointing north and northwest, 15 feet east of road; nail in root of pine tree, marked "146"-----	145. 93
Melrose, 5.9 miles south of, 100 feet northwest of crossroads, 10 feet northeast of corner of old schoolhouse; iron post stamped "179 Prim. Trav. Sta. No. 31"-----	178. 953
Melrose, 6.9 miles south of, 15 feet west of road forks to northeast, 8 feet west of road; nail in root of small black oak tree, marked "161.2"-----	161. 07
Melrose, 7.5 miles south of, about 1 mile north of McMeekin, in northeast corner of crossroads; nail in root of sapling, marked "139"-----	138. 70
McMeekin, northeast corner of L. J. Stokes's store; artificial stone post (Coast and Geodetic Survey bench mark)-----	120. 230
McMeekin south along highway 2.7 miles.	
McMeekin, 3.1 miles south of, in south angle of forks to southeast, 200 feet north of forks to southwest; iron post stamped "117 Prim. Trav. Sta. No. 32"-----	117. 296
McMeekin, in inclosure just north of L. J. Stokes's store, 2 feet south of Coast and Geodetic Survey bench mark; iron post stamped "120 Prim. Trav. Sta."-----	120. 364
McMeekin, at railroad crossing; top of rail-----	107
McMeekin, 1.3 miles southwest of, 30 feet southeast of second-class road forks to northwest; nail in root of water oak tree, marked "106."-----	105. 98
McMeekin, 2.7 miles south of, in northeast corner of road crossing; nail in root of pine stump, marked "113.5"-----	113. 47
Rochelle south along highways via Micanopy Junction to point 3 miles east of Lochloosa.	
Rochelle, north end of one-story dwelling owned by S. S. Phifer; copper bolt set in brick chimney (Coast and Geodetic Survey bench mark)-----	83. 165
Rochelle, 15 feet southeast of main entrance to schoolhouse; iron post stamped "83 Prim. Trav. Sta. No. 40"-----	82. 703
Rochelle, 4 miles south of, in southwest corner of railroad crossing; iron post stamped "72 Prim. Trav. Sta. No. 41"-----	72. 442
Rochelle, 5 miles south of, 20 feet northeast of railroad crossing; top of a piece of iron rail driven in ground, marked "68"-----	67. 59
Micanopy Junction, in front of station; top of rail-----	72. 4
Micanopy Junction, 0.4 mile south of, in southeast corner of railroad crossing, east of railroad track; iron post stamped "68 Prim. Trav. Sta. No. 42"-----	68. 424
Micanopy Junction, 1.3 miles southeast of, 15 feet north of road forks to southeast; nail in root of pine tree, marked "63"-----	62. 73
Micanopy Junction, 2.4 miles southeast of, 25 feet south of road forks to northeast of house; nail in root of pine tree, marked "73"-----	72. 94
Micanopy Junction, 3.6 miles east of, in southeast corner of crossroads; iron post stamped "77 Prim. Trav. Sta. No. 43"-----	76. 694
Micanopy Junction, 4.8 miles east of, in southwest corner of crossroads; nail in root of pine tree, marked "91"-----	90. 74

Micanopy Junction, 5.8 miles east of, in east angle of road forks to south, about 600 feet southwest of house; nail in root of pine tree, marked "74"-----	Feet. 74. 27
Micanopy Junction, 7.1 miles east of, about 300 feet east of bridge over Lochloosa Creek, in east angle of forks to north; iron post stamped "73 Prim. Trav. Sta. No. 44"-----	72. 900
Micanopy Junction, 8.0 miles east of road forks, 200 feet west of drain crossing, 6 feet south of road; nail in root of pine tree, marked "66"-----	65. 83
Micanopy Junction, 9.4 miles east of, 300 feet south of drain, 15 feet east of road; nail in root of pine tree, marked "76"-----	76. 17
Micanopy Junction, 10.47 miles east of, on Seaboard Air Line Railway; top of bolt on southeast corner of truss 103.5, marked "80"-----	80. 02
Lochloosa, 200 feet southeast of station, between main public road south and railroad; iron post stamped "Prim. Trav. Sta. No. 45, 65"-----	65. 327
Lochloosa, 1 mile east of, 50 feet east of road forks to southwest, 15 feet south of road; nail in root of pine tree, marked "86"-----	86. 12
Lochloosa, 2.1 miles east of, in southeast corner of crossroads; iron post stamped "82 Prim. Trav. Sta. No. 46"-----	82. 206
Lochloosa, 3.3 miles east of, 50 feet northeast of dim road southeast, 500 feet west of crossroads, 15 feet north of road; nail in root of pine tree, marked "87"-----	86. 89
Rochelle north along highways to point 4 miles northeast of Fairbanks.	
Rochelle, 1 mile north of, in southwest angle of road to west; nail in root of pine tree, marked "98.3"-----	98. 32
Rochelle, 2.4 miles north of, 400 feet north of culvert, 300 feet south of second-class road west, 8 feet west of road; nail in root of water oak tree, marked "91.6"-----	91. 60
Rochelle, 3 miles north of, 20 feet west of road forks, to northwest; nail in root of pine tree, marked "88.7"-----	88.74
Windsor, in northeast corner of crossroads; iron post stamped "114 Prim. Trav. Sta. No. 52"-----	114. 293
Windsor, 1.32 miles northwest of, 6 feet north of road; nail in root of pine tree, marked "83"-----	83. 05
Windsor, 2.9 miles northwest of, 300 feet south of drain, 10 feet west of road; nail in root of pine tree, marked "80.1"-----	80.13
Windsor, 3.6 miles northwest of, 300 feet west of west end of bridge over Big Hatchet Creek, in northeast corner of T road north; iron post stamped "78 Prim. Trav. Sta. No. 53"-----	77. 743
Windsor, 4.7 miles northwest of, 25 feet south of road, 100 feet southeast of drain; nail in root of pine tree, marked "95.9"-----	95. 95
Windsor, 5.4 miles northwest of, in southeast angle of road forks to south, 600 feet north of house; iron post stamped "115 Prim. Trav. Sta. No. 54"-----	115. 423
Fairbanks, 10 feet southwest of, southwest corner of post office in southeast corner of inclosure, 450 feet north of station; iron post stamped "163 Prim. Trav. Sta. 55"-----	162. 951
Fairbanks, 3 miles northeast of, 150 feet southwest of east end of dead-head switch, in corner southwest of railroad crossing, near Milligan's still; iron post stamped "157 Prim. Trav. Sta. No. 56"-----	157. 486

Point 8 miles southeast of Waldo southeast along highway to point 3 miles north of Melrose.

Waldo, 7.9 miles southeast of, 10 feet north of road forks to southwest, about 1.5 miles northwest of Melrose; nail in root of pine tree -----	Feet. 145. 31
Melrose, southwest corner of town hall, 200 feet north of post office; iron post stamped "162 Prim. Trav. Sta. No. 60"-----	162. 223
Melrose, 1.4 miles northeast of, in northeast angle of road forks to northeast, just behind large pine tree; nail in root of small water oak tree, marked "161.8"-----	161. 71
Melrose, 2.2 miles northeast of, 30 feet west of road forks to southwest, about 350 feet south of drain crossing; iron post stamped "146 Prim. Trav. Sta. No. 61"-----	145. 867
Melrose, 3.3 miles northeast of, at top of hill, 20 feet west of road, 2 feet southeast of 18-inch pine; nail in root of blazed oak tree, marked "144.5"-----	144. 53

INTERLACHEN QUADRANGLE.

Point 5.6 miles northwest of Woodburn north and west along highways to point 2.5 miles west of Putnam Hall.

Woodburn, 5.7 miles northwest of, 50 feet west of road forks, about 500 feet northwest of old shack; nail in root of red oak tree, marked "92.4"-----	92. 44
Woodburn, 6.6 miles northwest of, in south angle of road forks south, 100 feet east of bridge over Sims Creek. (Bench mark set by a canal survey of the War Department; it is a pile of concrete with a tin can at the top. In center of can is a nail, marked "U.S.B.M.")_	50. 76
Woodburn, 7.7 miles northwest of, in southwest corner of crossroads, 600 feet southeast of house; nail in root of pine tree, marked "112.1"-----	112. 11
Woodburn, 8.9 miles northwest of, 100 feet southwest of creek crossing, 12 feet south of road; iron post stamped "72 Prim. Trav. Sta. 25"-----	71. 623
Woodburn, 10.3 miles northwest of, in southeast angle of road forks to northeast; nail in root of red oak tree, marked "126.5"-----	126. 44
Woodburn, 11.8 miles west of, 6 feet north of road, about 0.2 mile northeast of Florahome-Palatka road; nail in root of water oak, marked "91"-----	91. 00
Florahome, 0.2 mile east of, at railroad crossing; top of rail-----	113.
Florahome, 150 feet southeast of station, in southeast corner of T road south; iron post stamped "125 Prim. Trav. Sta. No. 26"-----	124. 518
Florahome, 0.8 mile west of, on southwest corner of railroad truss over creek; head of bolt marked "92.7"-----	92. 63
Grandin, 200 feet north of railroad station, at northeast corner of store, inside fence; iron post stamped "101 Prim. Trav. Sta. No. 27"-----	100. 528
Grandin, 1.6 miles west of, at bottom of grade, near telephone pole, on south joint of rail; marked "97.8"-----	97. 8
Putnam Hall, 50 feet north of railroad station, 10 feet east of four water oaks in a cluster; iron post stamped "106 Prim. Trav. Sta. No. 28"-----	105. 568

Putnam Hall, 1 mile southwest of, opposite dim road west, 600 feet south of house, 3 feet east of road; nail in root of pine tree, marked "94"-----	Feet. 93.97
Putnam Hall, 2.4 miles southwest of, 15 feet north of road, 300 feet south of lake; nail in top of pine stump, marked "107.1"-----	107.07
Point 3.10 miles south of McMeekin south and west along highways via Orange Springs and Rodman to point 3.3 miles northeast of Rodman.	
McMeekin, 4.1 miles south of, 20 feet southeast of forks; nail in root of pine tree, marked "104.2"-----	104.20
McMeekin, 5.4 miles south of, 25 feet southeast of road forks to northwest; nail in root of red oak tree, marked "99.8"-----	99.76
McMeekin, 6.1 miles south of, about 300 feet east of lake, in northeast corner of crossroads; iron post stamped "87 Prim. Trav. Sta. No. 33"-----	86.754
McMeekin, 7.1 miles south of, in northwest angle of T road west, about 200 feet west of creek and old mill; nail in root of red oak tree, marked "66.8"-----	66.78
McMeekin, 7.8 miles south of, 500 feet west of center of bridge over Orange Creek, 30 feet west of road forks; nail in root of red oak tree, marked "57.8"-----	57.72
McMeekin, 8.2 miles south of, about 1,800 feet southeast of Orange Creek, in triangle of T road east; iron post stamped "69 Prim. Trav. Sta. No. 34"-----	68.612
McMeekin, 9.8 miles southeast of, in southeast corner of crossroads, about 4 miles west of Orange Springs; nail in root of pine tree, marked "78.2"-----	78.10
McMeekin, 10 miles south of, about 3 miles west of Orange Springs, 20 feet south of road forks to northwest, 200 feet north of small lake; nail in root of water oak, marked "75.4"-----	75.28
McMeekin, 11.5 miles southeast of, in northwest angle of road forks to northwest; nail in root of pine tree, marked "73"-----	72.75
Orange Springs, 200 feet east of post office, in inclosure, northwest corner of road crossing; iron post stamped "63 Prim. Trav. Sta. No. 35"-----	62.572
Orange Springs, 1.1 miles east of, in northwest corner of crossroads; nail in root of pine tree, marked "66.7"-----	66.60
Orange Springs Ferry, water surface of Oklawaha River, Mar. 13, 1911-----	13.
Orange Springs, 2.8 miles east of, at top of hill, in east corner of forks to south; nail in root of tree, marked "68.6"-----	68.44
Orange Springs, 3.4 miles east of, in southwest corner of crossroads; iron post stamped "135 Prim. Trav. Sta. No. 36"-----	134.426
Orange Springs, 5.1 miles east of, on top of rise, 150 feet east of forks to southwest, 200 feet south of old house, 6 feet south of road; nail in root of red oak tree, marked "132.5"-----	132.38
Cedar Landing, water surface of Oklawaha River, Mar. 15, 1911-----	10.
Orange Springs, 6.1 miles east of, about 0.2 miles north of Cedar Landing, 50 feet southwest of forks, 6 feet west of road; nail in root of water oak tree, marked "14.3"-----	14.12
Orange Springs, 7.4 miles east of, in northwest corner of dim crossroads, about 1.5 miles northeast of Cedar Landing; nail in root of pine tree, marked "25.2"-----	27.03

Orange Springs, 8.2 miles east of, 30 feet north of tramway crossing, at southwest corner of shack; iron post stamped "26 Prim. Trav. Sta. No. 37"-----	Feet. 25.469
Orange Springs, 9.9 miles east of, south side of road, opposite T road north, 20 feet north of old schoolhouse; nail in top of pine stump, marked "48.8"-----	48.62
Orange Springs, 11.1 miles east of, 200 feet northeast of forks to west, 20 feet west of road, 400 feet northwest of low place in road; nail in root of pine tree, marked "28.8"-----	28.56
Rodman, on top of west concrete foundation for iron gate post, southeast corner of park; cross in concrete, marked "28.6"-----	28.37
Rodman, 3.3 miles northeast of, in southeast corner of crossing of old Palatka-Rodman road and Wilson Lumber Co. tramway; iron post stamped "27 Prim. Trav. Sta. No. 39"-----	27.110

Point 1 mile east of Rodman to Turpentine Landing (unchecked spur line).

Rodman, 2.04 miles southeast of, in southeast corner of crossroads, 250 feet south of drain crossing; nail in root of pine tree, marked "21.5"-----	21.24
Rodman, 3.5 miles east of, 20 feet east of road, pine tree located as primary traverse point, marked "P. T." in large white letters and bearing warning sign marked "21.2"; nail in root-----	20.97
Rodman, 4.6 miles southeast of, at Turpentine Landing, 30 feet southeast of road forks to north, 20 feet east of road; iron post stamped "9 Prim. Trav. Sta. No. 38"-----	8.952

PALATKA QUADRANGLE.

Point 1 mile south of Roy south along highways to Schells Bluff, thence northwest along highways to point about 1 mile south of San Mateo, thence southwest along highways via Satsuma to point 4.3 miles southwest of Satsuma.

Roy, 1 mile south of, about 600 feet south of second-class road crossing, 25 feet east of road; nail in root of pine tree, marked "25.4"-----	25.48
Roy, 2.7 miles south of, 700 feet south of two-story house, in north angle of road forks to northwest; iron post stamped "27 Prim. Trav. Sta. No. 11"-----	27.479
Hastings, 3.9 miles south of, 50 feet south of second-class road forks to southeast, 6 feet east of road; nail in root of pine tree, marked "23.2"-----	23.32
Roy, 5 miles south of, in south angle of road forks to southwest; nail in root of pine tree, marked "21.8"-----	21.94
Roy, 6.2 miles south of, 6 feet east of road; nail in root of pine tree, marked "20.2"-----	20.27
Roy, 7.4 miles south of, 6 feet east of road; nail in root of pine tree, marked "14.2"-----	14.29
Roy, 8 miles south of, about 1.2 miles north of Schell's Bluff, in northeast angle of T road north; iron post stamped "6 Prim. Trav. Sta. No. 12"-----	6.191
Schells Bluff, 1 mile northwest of, in northeast angle of road forks to southwest, 25 feet east of road; nail in root of pine tree, marked "10.2"-----	10.33

	Feet.
Schells Bluff, 2.1 miles northwest of, 300 feet south of second-class road west, 30 feet west of road; nail in root of pine tree, marked "17.5"-----	17. 65
Schells Bluff, 2.5 miles northwest of, 50 feet south of creek, in southeast corner of sharp turn in road to east, in inner corner of fence; iron post stamped "12 Prim. Trav. Sta. No. 13"-----	12. 014
Schells Bluff, 3.6 miles northwest of, 6 feet east of road; nail in root of dead-top pine, marked "25.4"-----	25. 55
Schells Bluff, 4.7 miles northwest of, 6 feet east of road and 30 feet south of forks, 100 feet east of lake; nail in root of pine tree, marked "27.4"-----	27. 52
Schells Bluff, 5.9 miles northwest of, 6 feet south of road; nail in root of pine tree, marked "29.5"-----	29. 66
Schells Bluff, 7.3 miles northwest of, 300 feet west of road forks to southwest, 6 feet north of road; nail in root of pine tree, marked "22.2"-----	22. 34
Schells Bluff, 8.6 miles northwest of, about 1.2 miles south of San Mateo, 200 feet north of bridge over creek, 20 feet east of road; iron post stamped "15 Prim. Trav. Sta. No. 14"-----	15. 351
Schells Bluff, 9.9 miles northwest of, about 1.5 miles east of bridge over Dunns Creek, 20 feet east of road; nail in root of pine tree, marked "13"-----	13. 18
Schells Bluff, 11.3 miles northwest of, on northeast abutment of bridge over Dunns Creek; chiseled square in concrete marked "3.90"-----	4. 14
Dunns Creek, 1.5 miles west of, 25 feet southwest of road forks to southeast; nail in root of pine tree, marked "39.4"-----	39. 62
Satsuma, 150 feet west of station, in southwest corner of yard, 50 feet east of railroad track; iron post stamped "78 Prim. Trav. Sta. No. 15"-----	78. 664
Satsuma, 1.1 miles southwest of, at top of rise, 300 feet south of house, 10 feet east of road; nail in root of water oak tree, marked "93.4"-----	93. 63
Satsuma, 2.8 miles southwest of, in southwest corner of road forks, 150 feet southeast of schoolhouse, near signboard "Satsuma 2½ mi., Sisco 2 mi.," 600 feet north of Nashua post office; nail in root of tree, marked "87.8"-----	87. 99
Satsuma, 4.3 miles southwest of, in southeast corner of road crossing; nail in root of large pine tree, marked "31.1"-----	31. 30
Point 1.2 miles north of Pomona northwest along Atlantic Coast Line Railroad via Satsuma to Palatka.	
Buffalo Bluff, railroad crossing; top of rail-----	15. 8
Buffalo Bluff, 1,200 feet north of station, at end of switch, 10 feet west of railroad track, at northeast corner of base of signal tower; nut marked "15"-----	15. 16
Hodges Mill, railroad crossing; top of rail-----	12.
Pomona, 8.6 miles north of, on southeast abutment of bridge over St. Johns River, 10 feet east of railroad track and 1½ feet below it; top of iron rod that holds wooden structure in place, marked "9.7"-----	9. 93
Penial, 1,600 feet west of station, on northwest abutment of bridge over drain, 2 feet below level of railroad track; top of bolt, marked "24"-----	24. 34
Penial, railroad crossing at station; top of rail-----	25.

Pomona, 10.9 miles north of, 300 feet west of milepost, at crossroads; top joint of north rail, marked "30"-----	Feet. 30.2
Pomona, 11.6 miles north of, 20 feet south of railroad crossing, at base of southeast corner of signal tower; bolt marked "32.4"-----	32.72
Palatka, at southeast corner of train shed of Union Station, on corner of concrete curb; chiseled square marked "23.6"-----	23.87
Palatka, in southwest corner of courthouse square; iron post stamped "19 Prim. Trav. Sta. No. 7"-----	19.390
Francis north and west along highways and Atlantic Coast Line Railroad to point 4.7 miles northwest of Woodburn.	
Springside, 150 feet southwest of railroad crossing, at southeast corner of L. M. Upchurch's store; iron post stamped "14 Prim. Trav. Sta. No. 14"-----	13.520
Springside, 0.8 mile west of, at second-class railroad crossing; joint of north rail, marked "16"-----	16.0
Woodburn, 30 feet south of railroad crossing, at inside corner of wire fence, west of road; iron post stamped "15 Prim. Trav. Sta. No. 19"-----	14.600
Woodburn, 1.4 miles north of, 150 feet south of crossroads, 10 feet east of road; nail in root of pine tree, marked "24.7"-----	24.67
Woodburn, 2.6 miles north of, in southwest angle of road forks south; nail in root of pine tree, marked "31.5"-----	31.50
Woodburn, 4.7 miles northwest of, in northeast corner of road crossing, about 2 miles north of Caraway station; iron post stamped "89 Prim. Trav. Sta. No. 20"-----	88.654
Palatka north along Atlantic Coast Line Railroad to point 2.8 miles north of Rice Creek station.	
Palatka, 1 mile north of, 300 feet south of milepost, 8 feet west of railroad track, northeast corner of base of signal tower; bolt, marked "18.3"-----	18.31
Rice Creek, at railroad crossing opposite station; top joint of east rail, marked "10.3"-----	10.3
Rice Creek, 0.8 mile north of station, 55 feet west of railroad track, just behind milepost, about 500 feet east of main Palatka-Bostwick road; iron post stamped "27"-----	26.580
Teasdale, at railroad crossing; top of rail-----	65.5
Point 7.2 miles west of Bostwick southwest along highways to point 4.7 miles northwest of Woodburn.	
Bostwick, 7.2 miles west of, in southwest corner of crossroads, about 1,200 feet east of creek crossing; nail in root of red oak tree, marked "87.6"-----	87.55
Bostwick, 8.7 miles west of, 400 feet northeast of bridge over Sims Creek, 10 feet east of road; nail in root of large pine tree, marked "35.4"-----	35.31
Point 4.4 miles northeast of Rodman northeast along highway to Francis.	
Rodman, 4.4 miles northeast of, in southeast angle of road forks to east; nail in root of pine tree, marked "27.2"-----	26.91
Rodman, 6 miles northeast of, 25 feet southwest of road forks to southwest, 300 feet south of old house at road forks to west; nail in root of pine tree, marked "42.5"-----	42.23

STARKE QUADRANGLE.

NOTE.—The line begun near Melrose and run north via Lake Geneva to Kingsley Lake, west to New River, and south to a point near Fairbanks had an excessive error (+1.518 feet), and the line from Graham west via Hampton and Theresa to a point 6 miles north of Lake Geneva closed 1.592 feet high. A line of secondary levels run from a point about 6 miles north of Lake Geneva agreed with the first line fairly well up to a point 1.41 miles northwest of Kingsley Lake, where an apparent error of -0.6 feet was found. From this point the line checked closely until a point 2 miles west of Saxton was reached. Here an apparent error of -1.20 feet was found. The second line was not carried beyond the latter point. These differences were used as correction, thus giving closures of -0.282 feet and -0.208 feet at the tie points, and the circuits were adjusted for these errors, but the results are still considered uncertain.

Point 4.8 miles northeast of Fairbanks northeast along Seaboard Air Line Railway to Waldo, thence southeast along highways 6.8 miles.

	Feet.
Waldo, southeast corner of school building; iron post stamped "157 Prim. Trav. Sta. No. 57"-----	156.925
Waldo, 1.2 miles southeast of, 600 feet east of culvert, in east corner of road forks to northeast; nail in root of pine tree, marked "142.5"-----	142.55
Waldo, 2.2 miles southeast of, in northeast angle of road forks, 250 feet south of house; nail in root of water oak tree, marked "157.4"-----	157.54
Waldo, 3.4 miles southeast of, in southeast corner of crossroads, at southwest corner of church; iron post stamped "171 Prim. Trav. Sta. No. 58"-----	171.133
Waldo, 4.6 miles southeast of, 100 feet north of crossroads, 10 feet east of road and 150 feet north of fence corner; nail in root of pine tree, marked "156.2"-----	156.28
Waldo, 5.8 miles southeast of, in southeast angle of road to east; nail in root of pine tree, marked "190"-----	190.11
Waldo, 6.8 miles southeast of, in northwest angle of road forks to west, about 3 miles northwest of Melrose; iron post stamped "188 Prim. Trav. Sta. No. 59"-----	188.457

Point 3.3 miles northeast of Melrose north along highways via Lake Geneva to Kingsley Lake, thence west along highways via Saxton to point 7 miles west of Starke.

Lake Geneva, 200 feet south of railroad station, at northeast corner of Baldwin & Kennedy's store; iron post stamped "130 Prim. Trav. Sta. No. 62"-----	130.065
Lake Geneva, 1.2 miles north of, 15 feet west of road, 300 feet east of large sink hole; nail in root of dead pine tree, marked "158.6"-----	158.59
Lake Geneva, 2.2 miles north of, 140 feet northwest of road forks to southeast, about 700 feet east of lake; nail in root of pine tree, marked "132"-----	132.06
Lake Geneva, 3.2 miles north of, 50 feet west of road, 300 feet southwest of road forks, at top of rise; nail in root of pine snag, marked "149"-----	148.93
Lake Geneva, 3.8 miles north of, in southwest corner of road crossing, northeast of lake; iron post stamped "158 Prim. Trav. Sta. No. 63"-----	157.627

	Feet.
Lake Geneva, 4.8 miles north of, 10 feet northeast of road forks to southeast, 300 feet south of bridge over lake outlet, on sandhill; nail in root of black oak tree, marked "144.4"-----	144. 38
Lake Geneva, 6.1 miles north of, 250 feet north of drain crossing, in northeast corner of intersection of Green Cove-Theressa and Starke-Lake Geneva roads; iron post stamped "167 Prim. Trav. Sta. No. 64"-----	167. 429
Lake Geneva, 7.9 miles north of, in southwest corner of forks of road to west, 500 feet west of lake; nail in root of red oak tree-----	192. 10
Lake Geneva, 9.1 miles north of, 300 feet north of old mill stand, 13 feet north of old tram road; nail in root of blazed pine tree-----	226. 80
Lake Geneva, 9.8 miles north of, in northeast corner of crossroads, 10 feet south of charred pine snag; iron post stamped "234 Prim. Trav. Sta. No. 65"-----	233. 786
Lake Geneva, 10.6 miles north of, in southeast corner of crossroads, 1 mile north of primary traverse station No. 65; nail in root of dead pine snag-----	238. 66
Lake Geneva, 12 miles north of, in northeast corner of crossroads; iron post stamped "246 Prim. Trav. Sta. No. 66"-----	246. 227
Lake Geneva, 13.5 miles north of, in southwest corner of crossroads, 250 feet southwest of deserted house, 6 feet west of road; nail in root of red oak tree-----	228. 06
Lake Geneva, 15.2 miles north of, west side of Kingsley Lake, northwest corner of crossroads; nail in root of red oak tree-----	215. 04
Kingsley Lake, north end of, at intersection of Laute-Green Cove Springs and Starke-Green Cove Springs roads, in west corner of forks, 150 feet south of deserted house; iron post stamped "211 Prim. Trav. Sta. No. 67"-----	210. 867
Kingsley Lake, 1.4 miles northwest of, about 0.2 mile west of drain crossing, 6 feet north of road; nail in root of red oak tree-----	236. 44
Kingsley Lake, 2.6 miles northwest of, in south corner of tram and road crossing; iron post stamped "239 Prim. Trav. Sta. No. 68"-----	238. 382
Kingsley Lake, 3.8 miles west of, east angle of Starke Lumber Co. tramway forks to southeast, 30 feet east of junction; nail in top of pine stump, marked "194"-----	193. 51
Kingsley Lake, 5.1 miles west of, 200 feet east of tramway crossing, in slight concave curve; nail in root of large pine tree-----	173. 19
Saxton, 400 feet north of railroad crossing, 30 feet west of Seaboard Air Line Ry. track, 50 feet northeast of one-story frame dwelling, on outer corner of fence; iron post stamped "165 Prim. Trav. Sta. 69"-----	164. 990
Saxton, 4.2 miles west of, 8 feet west of Starke-Sanderson road, 150 feet north of mail boxes 26 and 27, in southwest corner of second-class road crossing, at corner of picket fence, 100 feet northeast of one story frame dwelling; iron post stamped "141 Prim. Trav. Sta. No. 70"-----	139. 354
Saxton, 5.4 miles west of, 50 feet south of sharp turn of road to west; nail in root of pine tree, marked "149"-----	147. 30
Saxton, 6.2 miles west of, 50 feet south of road forks to southeast, 100 feet southeast of culvert; nail in root of pine tree, marked "139.1"-----	137. 51

Saxton, 7.2 miles west of, on Starke-Raiford road, in northwest angle of road to north, 400 feet east of house, about same distance southeast of mail box No. 44; iron post stamped "139 Prim. Trav. Sta. No. 71"-----	Feet. 137. 205
Saxton, 8.6 miles west of, 400 feet southeast of road forks, 200 feet west of Anderbilt schoolhouse, 8 feet west of road; nail in root of pine tree, marked "142.1"-----	140. 50
Saxton, 9.6 miles west of, in west corner of crossroads, 300 feet west of house; nail in root of pine tree, marked "142.3"-----	140. 65
Saxton, 10.8 miles west of, on Starke-Lake Butler road, about 7 miles west of Starke, in west angle of road to southwest; iron post stamped "149 Prim. Trav. Sta. No. 72"-----	147. 854

Clayno southeast along highways via Graham and Cyril to a point 3.8 miles east of Fairbanks.

Clayno, northwest corner of house, 100 feet southwest of railroad crossing, 300 feet southeast of water tank; iron post stamped "155 Prim. Trav. Sta. No. 74"-----	153. 517
Clayno, 1 mile south of, 15 feet southwest of road forks to south; nail in root of large pine tree, marked "149.7"-----	148. 19
Clayno, 2.6 miles south of, 150 feet southeast of J. C. Padgett's mail box, 250 feet south of house, 25 feet south of road; nail in large pine tree-----	160. 33
Clayno, 3.4 miles south of, in east corner of road crossing, 300 feet north of large white house; iron post stamped "155 Prim. Trav. Sta. No. 75"-----	153. 805
Graham; 8 feet east of, southeast corner of station, at road crossing; top of west joining of railroad track, marked "144.4"-----	142. 9
Louisa, 50 feet southwest of station, about same distance west of crossing; iron post stamped "152 Prim. Trav. Sta. No. 76"-----	150. 917
Cyril, 150 feet north of station, at railroad crossing; joint of west rail, marked "159.8"-----	158. 3
Cyril, 2 miles southwest of, 18 feet southwest of road, 10 feet south and southwest, respectively, of two pine trees painted "U.S.B.M.," in large white letters; iron post stamped "156 Prim. Trav. Sta. No. 77"-----	154. 912
Cyril, 3.6 miles southeast of, 200 feet northeast of small swamp, 6 feet north of road; nail in root of pine tree located by primary traverse-----	151. 79

Graham west along highways via Hampton and Theresa to point 6.1 miles north of Lake Geneva.

Graham, 1.8 miles east of, 200 feet east of Graham-Starke and Graham-Hampton crossroads, opposite wide road entrance to house to south; iron post stamped "147 Prim. Trav. Sta. No. 78"-----	145. 209
Graham, 3 miles east of, 50 feet northwest of second-class road to southwest, 6 feet north of road; nail in root of pine stump, marked "139.8"-----	138. 32
Graham, 4 miles east of, in west angle of road forks to northwest, about 400 feet northwest of house, 1 mile west of Hampton; nail in root of pine tree, marked "152.8"-----	151. 28

Hampton, 150 feet east of, northeast corner of station, 50 feet south of northwest corner of hotel, 8 feet north of pavement, 2 feet south of old concrete well top; iron post stamped "150 Prim. Trav. Sta. No. 79"-----	Feet. 148.432
Theressa, 150 feet south of railroad station, 30 feet southwest of railroad crossing, at northeast corner of one-story dwelling house; iron post stamped "168 Prim. Trav. Sta. No. 80"-----	166.181
Theressa, 0.8 mile east of, in southeast corner of intersection of Starke-Melrose and Theressa-Spring Lake roads; nail in root of pine stump, marked "164.2"-----	162.66
Theressa, 2.1 miles east of, 25 feet north of road forks to southeast; iron post stamped "191 Prim. Trav. Sta. No. 81"-----	189.837
Theressa, 3.3 miles east of, 150 feet north of road forks, 10 feet east of road; nail in root of charred pine stump, marked "188.7"-----	187.11

WELAKA QUADRANGLE.

Point 5 miles southwest of Satsuma west along highways to Pomona.

Satsuma, 5.3 miles southwest of, 75 feet north of entrance to Oakwood Cemetery, in sharp angle of road to west; nail in root of pine tree, marked "24.5"-----	24.73
Welaka, in southwest angle of two cross streets, corner of Winston Stevens's yard; iron post stamped "27 Prim. Trav. Sta. No. 16"---	26.886
Welaka, 1.1 miles east of, in southeast corner of second-class road crossing; nail in root of water oak tree, marked "53.2"-----	53.36
Welaka, 3 miles east of, at top of hill, 300 feet east of crossroads, 15 feet north of road; nail in root of water oak tree, marked "55.5"---	55.70
Welaka, 3.9 miles east of, in northeast angle of crossroads, about 1.5 miles west of Pomona; nail in root of pine tree, marked "66.7"---	66.85
Pomona, 300 feet north of station, in southwest angle of railroad crossing; iron post stamped "63 Prim. Trav. Sta. No. 17"-----	63.160

APPENDIX.

ELEVATIONS BY COAST AND GEODETIC SURVEY PRECISE LEVELING.

Arredonda, Bronson, Cedar Keys, Dinner Island, Hawthorn, Interlachen, Palatka,
St. Augustine, and Younglove quadrangles.

ALACHUA, LEVY, PUTNAM, AND ST. JOHN COUNTIES.

The following descriptions and elevations are taken from reports of the Coast and Geodetic Survey, and are republished by permission of the superintendent of that bureau. The bench marks were established by the Coast and Geodetic Survey and were included in the 1903 adjustment by that survey. The elevations are likely to be changed but little by any future adjustment.

ST. AUGUSTINE QUADRANGLE.

St. Augustine southwest along Florida East Coast Railway to Tocol Junction.

	Feet.
St. Augustine, about 6 inches from east and south edges of granite coping of sea wall, at corner of entrance to basin opposite plaza; cut (C. & G. S. "Fairfield")-----	7. 256
St. Augustine, in vertical face of sea wall about 1.5 feet from base 28.2 feet south of wharf; triangle with hole in center (C. & G. S. "Hitchcock")-----	1. 307
St. Augustine, in face of sea wall, 1.9 meters below top, few feet south of bench mark A., of wall; upper surface of iron rod 1 inch square (C. & G. S. "Tidal")-----	0. 872
St. Augustine, near center of top of granite coping of sea wall, 3 feet south of south side of basin opposite plaza; bottom of square cut lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "A")-----	7. 046
St. Augustine, granite coping of sea wall, near southwest corner of sixty-seventh stone south of south side of basin opposite plaza, 107 meters south of basin; surface of a smooth place 2 by 2 inches, lettered "U. S. □ B. M." (C. & G. S. "B")-----	6. 689
St. Augustine, at southeast corner of United States reservation west of plaza, bottom of square cut in top of marble post. Edges of top of post are broken off; post marked "□ U. S." (C. & G. S. "C")--	7. 896
St. Augustine, United States reservation, west of west end of custom-house, near building, at center of a marble post 8 by 8 inches by 3 feet, buried in ground 30 inches; bottom of a square cut lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "D")-----	7. 885
Tocol Junction, yard of residence of Mr. H. Wood, near southeast corner of house, at center of artificial stone post 8 by 8 inches in cross section and 3 feet long, projecting 6 inches above surface and lettered "U. S. B. M."; square cut (C. & G. S. "E")-----	35. 533

PALATKA QUADRANGLE.

Hastings southwest along Florida East Coast Railway and west along the Atlantic Coast Line Railroad to Francis.

Buena Vista, northeast corner of railroad station platform, at center of artificial stone post 8 by 8 inches in cross section and 3 feet long, projecting 6 inches above the surface; square cut in center marked "U. S. \square B. M." (C. & G. S. "H")-----	Feet. 14. 722
East Palatka, front yard of residence of Mr. J. E. Gould, in top of an 8 by 8 by 18 inch marble post buried 16 inches in ground and lettered "U. S. B. M."; bottom of a square cut (C. & G. S. "I")----	16. 846
Palatka, near south side of north door on west side of Atlantic Coast Line Railroad offices, in two-story brick building near St. Johns River, at west end of bridge over river; bottom of a square cut in granite doorsill lettered "U. S. \square B. M." (C. & G. S. "J")-----	12. 706
Francis, southwest corner of yard of small dwelling house belonging to R. D. Howell, north of track, facing railroad, second house west of railroad station; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches buried 30 inches in ground, lettered "U. S. C. & \square G. S. B. M." (C. & G. S., Francis)-----	69. 397

DINNER ISLAND QUADRANGLE.

Middleton southwest along Florida East Coast Railway to Hastings.

Middleton, southwest corner of front yard at residence of Philip Weedman, near fence, at center of marble post 8 by 8 inches in cross section and 3 feet long, projecting 6 inches above the surface and lettered "U. S. \square B. M."; square cut (C. & G. S. "F")-----	34. 590
Hastings, near back steps of veranda on west side of house, at center of artificial stone post 8 by 8 inches in cross section and 3 feet long, projecting 6 inches above the surface and lettered "U. S. \square B. M."; square cut (C. & G. S. "G")-----	7. 527

INTERLACHEN QUADRANGLE.

Francis west along Atlantic Coast Line Railroad to Interlachen.

Hollister, southwest corner of yard of dwelling house of Mr. T. W. Ralp, facing railroad, a short distance west of railroad station, north of track; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches buried 30 inches in ground and lettered "U. S. C. & \square G. S. B. M." (C. & G. S. "K")-----	80. 268
Interlachen, on north side of small triangular inclosure in front of Mr. James M. Erskine's feed store, opposite railroad station; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches, buried 30 inches in ground and lettered "U. S. C. & \square G. S. B. M." (C. & G. S. "L")-----	105. 431

HAWTHORN QUADRANGLE.

Interlachen west along the Atlantic Coast Line Railroad to Rochelle.

McMeekin, in inclosure north of L. J. Stokes's store, north of track, short distance west of railroad station; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches, buried 30 inches in ground and lettered "U. S. C. & \square G. S. B. M." (C. & G. S. "M")-----	120. 230
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Hawthorn, on south side (next railroad track) of frame dwelling house of W. T. Broswell, east of railroad station, in brick chimney, in eighteenth course above ground, second brick from southwest corner of chimney; intersection of cross in end of copper bolt (C. & G. S. "N")-----	Feet. 145. 150
Hawthorn, in brick chimney at north end of one-story house of J. N. Craig, north of railroad track, half a block from railroad station, in eighteenth course above ground and in corner brick at northeast corner of chimney; intersection of cross in end of copper bolt (C. & G. S. "O")-----	146. 840
Grove Park, in northeast corner of lot owned by M. S. Spray, across street south of railroad station; bottom of a square cut in top of artificial stone post 8 by 8 by 36 inches, buried 30 inches in ground and lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "P")-----	100. 542
Rochelle, in brick chimney at north end of house, in fifteenth course above ground, in brick which extends to northwest corner, on west side of chimney; intersection of cross in end of copper bolt. (C. & G. S. "Q")-----	83. 165

ARREDONDA QUADRANGLE.

Rochelle southwest along Atlantic Coast Line Railroad and Seaboard Air Line Railway to Palmer.

Gainesville, southwest corner of courthouse yard; bottom of a square cut in top of an 8 by 8 by 26 inch marble post, buried 24 inches in ground and lettered "U. S. C. & G. S. B. M." (C. & G. S. "R")--	176. 992
Gainesville, middle of doorway leading to second story of brick Barnett Block facing courthouse square, in middle of front of building; middle of raised, smooth band on outer edge of iron doorsill. (C. & G. S. "S")-----	177. 210
Gainesville, west entrance to brick courthouse, lowest step on right hand, near wall; bottom of a square cut in the upper surface of step, lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "T")-----	178. 727
Arredonda, corner of orchard of D. G. Harvard, 0.9 meter from nearest corner post; bottom of a square cut in top of a piece of artificial stone 8 by 8 by 14 inches, buried with its upper surface 10 inches beneath surface of ground, and lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "U")-----	88. 818
Palmer, top of foundation, at northwest corner, 2 feet above ground, at west end of small house north of track and a little west of railroad station; bottom of a square cut in top of one of the stones forming foundation of brick chimney, lettered "U. S. B. M." (C. & G. S. "V")-----	76. 348

YOUNGLOVE QUADRANGLE.

Palmer southwest along Seaboard Air Line Railway to Archer.

Archer, in brick chimney on south side of Mr. C. W. Banknight's house, short distance north of track and opposite freight depot of Seaboard Air Line Ry., in ninth course above ground and in second brick from southwest corner of chimney, about one-fourth inch inside outer surface of brick; intersection of cross in end of copper bolt (C. & G. S. "Archer")-----	85. 070
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BRONSON QUADRANGLE.

Archer southwest along Seaboard Air Line Railway to Rosewood.

Albion, in foundation of small new chimney on west side of frame building north of railroad station; bottom of a square cut in top of brick (C. & G. S. "Albion")-----	Feet. 88. 578
Bronson, south side of brick chimney at west end of Mrs. L. E. Taylor's house, north of track and nearly opposite railroad station, ninth course above ground, in second brick from southwest corner of chimney; intersection of cross in end of leaded copper bolt (C. & G. S. "W")-----	72. 088
Otter Creek, in south side of brick chimney on east end of two-story frame house, eighteen courses above ground, in second brick from southeast corner of chimney; intersection of cross in end of copper bolt (C. & G. S. "Otter Creek")-----	32. 384
Ellzey, in northeast corner of front yard of house occupied by J. A. Williams, south of track and west of railroad station; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches, buried 30 inches in the ground and lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "X")-----	25. 481
Rosewood, near front of store and post office, inside fence, near west side of front porch; bottom of a square cut in top of an artificial stone post 8 by 8 by 36 inches, buried 30 inches in ground and lettered "U. S. C. & □ G. S. B. M." (C. & G. S. "Rosewood")----	14. 570

CEDAR KEYS QUADRANGLE.

Rosewood southwest along Seaboard Air Line Railway to Cedar Keys.

Cedar Keys, southwest corner of carpenter's shop at south end of D Street; iron rod, 6 feet long and 1 inch in diameter, with head 2 by 2 inches, driven in sand, with head a little below surface (C. & G. S. "Tidal") ¹ -----	3. 051
Cedar Keys, "Bench mark is the under edge of the sill of the front window at the southeast corner of the new concrete store, built in 1877 by Thomas Barnes"; lower edge of window sill (C. & G. S. "Perkins")-----	11. 717
Cedar Keys, north iron pier of Transit of Venus station, in surface of round pier 0.73 metre below top; intersection of cross cut in south face of iron pier marked "U. S. B. M." (C. & G. S. "Y")---	13. 130
Cedar Keys, in south side of south iron pier used at Transit of Venus station, rectangular opening in side of pier 0.10 meter wide and 0.15 meter high; upper surface of bottom of square opening of iron pier marked "U. S. B. M." (C. & G. S. "Z")-----	13. 300
Cedar Keys, leaded in south face of brick transit pier of Transit of Venus station, sixth course above ground, in second brick from southwest corner of pier; intersection of cross in end of a copper bolt (C. & G. S. "Transit")-----	12. 749

¹ This bench mark can be reached in one station from tide staff.

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