

# KENTUCKY.

## PRIMARY TRAVERSE AND PRIMARY LEVELING.

Ekron, Kosmosdale, and Vine Grove quadrangles.

CAMP KNOX MILITARY RESERVATION.

BULLITT, HARDEN, AND MEADE COUNTIES.

Primary traverse was done by Capt. E. C. Bebb, H. S. Senseney, O. B. Walsh, and C. F. Urquhart in 1918.

Positions were derived from Louisville South Base triangulation station of the U. S. Coast and Geodetic Survey, North American Datum.

Connections were made also with stations Nos. 937 and 949 of the Corps of Engineers, U. S. Army.

Primary leveling was done by E. E. Harris and R. B. Steele in 1918.

Elevations are based on heights of bench marks near West Point, 1912 adjustment. For other positions in Kentucky see U. S. Geological Survey Bulletins 122, 181, 216, 245, 276, 310, 440, 496, and 644, United States Coast and Geodetic Survey Special Publication No. 30, and Mississippi River Commission Reports for 1881, 1884, and 1888.

### EKRON QUADRANGLE.

From post No. 131 to post No. 122.

Primary traverse by Capt. E. C. Bebb in 1918; primary leveling by Capt. E. C. Bebb in 1918 and R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Bartles, about 1.75 miles southeast of, south side of road, at T road northwest, in front of schoolhouse; iron post stamped "Prim. Trav. Sta. No. 131, 1918. Elev. 462." Elevation 462.350 feet (140.925 meters).....	37 58 09.05	86 00 46.81	Feet. .....
Small bridge, in third plank from south end of; nail.....	37 58 19.33	86 00 57.05	1,324
Bartles, about 0.5 mile southeast of, at north edge of road, on east side of T road south; iron post stamped "Prim. Trav. Sta. No. 205, 1918. Elev. 419." Elevation 418.735 feet (127.631 meters)...	37 58 23.67	86 00 57.18	438
Bartles, 0.6 mile northeast of, 0.2 mile west of crossroads, south of road, 50 feet west of east edge of timber, in root of 14-inch hickory tree; copper nail and washer, marked "465.5." Elevation 465.51 feet (141.887 meters).			
At turn in road, 30 feet north of 14-inch sycamore tree; hub.....	37 58 41.29	86 00 38.97	2,302
Bartles School, about 0.9 mile northeast of, at southeast angle of crossroads; iron post stamped "Prim. Trav. Sta. No. 206, 1918. Elev. 474." Elevation 474.043 feet (144.488 meters).....	37 58 42.45	86 00 30.72	670
South side of road, 12 feet northeast of linden tree, in root, blazed "U. S.".....	37 58 44.19	86 00 12.72	1,450
Bartles School, 1.3 miles northeast of, near old sawmill, on south side of road, in root of 18-inch birch tree; copper nail and washer, marked "U.S.T.B.M. 496.8." Elevation 496.84 feet (151.437 meters).			
North side of road, 25 feet east of large elm tree; hub.....	37 58 43.97	86 00 00.14	1,008
Bartles School, 1.9 miles northeast of, on top of Iron Mountain, in northeast angle at crossroads, in yard of Mr. Harris's residence; iron post stamped "Prim. Trav. Sta. No. 137, 1918. Elev. 654." Elevation 654.545 feet (199.506 meters).....	37 58 36.20	85 59 38.87	1,876
Tioga, about 1 mile northwest of, at road forks, at road northeast, at foot of high bluff, southwest edge of road, 28 feet southwest of southwest end of bridge; iron post stamped "Prim. Trav. Sta. 122, 1918. Elev. 409." Elevation 409.486 feet (124.811 meters).....	37 58 25.66	85 59 23.12	1,651

Magnetic declination, 1° 17' E.

121166~—23—Bull. 709—18

267

## From Muldraugh southwest along highways to Garnettsville.

Primary traverse by H. S. Senseney in 1918; primary leveling by R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Muldraugh, 0.7 mile southwest of, at southwest corner of T road southeast; iron post stamped "Prim. Trav. Sta. No. 157, 1918. Elev. 145." Elevation 744.896 feet (227.045 meters).....	37 56 02.80	86 00 0.60	3,154
South side of road, in line with T road south; hub.....	37 55 58.48	86 00 23.82	1,220
Muldraugh, 0.9 mile southwest of, on south edge of road, in line with road south, in top of hub; copper nail and washer; a telephone pole 30 feet northeast is marked "U.S.T.B.M. 693.6." Elevation 693.81 feet (211.474 meters).			
Muldraugh, 1.25 miles southwest of, south side of road, opposite lane north; iron post stamped "Prim. Trav. Sta. No. 158, 1918. Elev. 682." Elevation 681.85 feet (207.828 meters).....	37 55 51.28	86 00 44.80	1,832
Garnettsville, 1.3 miles northeast of, on south side of road, at old road forks, in hub; copper nail and washer; a boulder 12 feet east is marked "U.S.T.B.M. 588.0." Elevation 588.15 feet (179.269 meters).....	37 55 45.66	86 01 19.79	2,860
Garnettsville, 0.8 mile north of, in southwest corner of road forks; iron post stamped "Prim. Trav. Sta. No. 160, 1918. Elev. 480." Elevation 480.275 feet (146.388 meters).....	37 55 52.51	86 01 43.35	1,011
Garnettsville, 0.4 mile north of, at mouth of big draw, east side of road, 20 feet south of small creek, in hub; copper nail and washer; a 12-inch sycamore tree 15 feet northeast is marked "U.S.T.B.M. 440.0." Elevation 440.14 feet (134.155 meters).....	37 55 38.76	86 01 28.31	1,840
Garnettsville, 370 feet north of crossroads, at southeast corner of cemetery, in base of south gate post; copper nail and washer marked "U.S.T.B.M. 512.5." Elevation 512.67 feet (156.262 meters).			
Garnettsville, southwest corner of crossroads, opposite Allen's store; iron post stamped "Prim. Trav. Sta. No. 174, 1918. Elev. 479." Elevation 479.374 feet (146.113 meters).....	37 55 15.52	86 01 39.88	2,528

## From Garnettsville southeast along highways to Stithton.

Garnettsville, 300 feet northeast of schoolhouse, north edge of triangle, at road forks, 3 feet south of two mail boxes, in hub; copper nail and washer; a mail-box post 4 feet north is marked "U.S.T.B.M. 563.4." Elevation 563.54 feet (171.768 meters)....	37 55 12.71	86 01 26.71	1,093
Garnettsville, 0.7 mile southeast of, south side of road, 15 feet east of farm road south; iron post stamped "Prim. Trav. Sta. No. 175, 1918. Elev. 651.4." Elevation 651.588 feet (198.604 meters).....	37 55 00.28	86 01 00.31	2,461
Garnettsville, 1.23 miles southeast of, on south side of road, at dim T road south, in root of 36-inch black-oak tree; copper nail and washer; tree marked "U.S.T.B.M. 677.9." Elevation 678.10 feet (206.685 meters).			
Garnettsville, 1.44 miles southeast of, south side of road, at T road north, at top of hill, in hub; wire nail; a post 25 feet northwest is marked "U.S.T.B.M. 661.8." Elevation 661.98 feet (201.772 meters).....	37 54 49.46	86 00 14.13	3,859

## From post No. 146, near Grayhampton, to Indian Hill.

Grayhampton, about 0.4 mile east of, at crossroads, near Grayhampton Methodist Church; iron post stamped "Prim. Trav. Sta. No. 146, 1918. Elev. 644." Elevation 643.754 feet (196.217 meters).....	37 54 06.95	86 01 13.64	.....
Farm road west; hub.....	37 53 51.40	86 00 45.85	2,727
Grayhampton, 1.2 miles southeast of, 0.7 mile southeast of Grayhampton Church, 10 feet west of road, 5 feet north of pipe line, top of 12-inch hackberry stump; copper nail and washer, stump marked "U. S. T. B. M. 693.3." Elevation 696 feet (212.269 meters.)			
East side of road, 20 feet north of pipe line; hub.....	37 53 47.07	86 00 39.42	677
South side of pipe line, 17 feet southwest of faucet, in pipe; hub....	37 53 51.05	86 00 15.23	1,980
Indian Hill, on top of, 50 feet northeast of water tank, 2 feet north of t. b. m. wire nail in root of oak tree, marked "U. S. T. B. M. 906.5"; hub, elevation of t. b. m. nail 906.54 feet (276.314 meters).....	37 53 50.21	86 00 08.92	512
North side of pipe line; hub.....	37 53 50.10	85 59 59.58	750

Magnetic declination, 1° 26' E.

## From post No. 176 via Grayhampton to Garnettsville.

Primary traverse by O. B. Walsh in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
On west side of road, opposite house; hub.....	37 54 29.80	86 00 02.79	.....
Grayhampton, 1.5 miles east of, on south side of road, in root of 18-inch oak tree; copper nail and washer, tree is marked "U. S. T. B. M. 689.8." Elevation 689.97 feet (210.303 meters).			
Grayhampton, about 1.25 miles east of, at T road south; iron post stamped "Prim. Trav. Sta. No. 145, 1918. Elev. 682." Elevation 681.765 feet (207.802 meters).....	37 54 21.20	86 00 25.88	2,045
Allenton schoolhouse, opposite; hub.....	37 54 16.49	86 00 43.10	1,460
Grayhampton, 0.7 mile east of, on south side of road, in line with T road northwest, in base of telephone pole; wire nail, pole is marked "U. S. T. B. M. 662.3." Elevation 662.50 feet (201.930 meters). Iron post No. 146 (previously described).....	37 54 06.95	86 01 13.64	2,631
East side of road, 8 feet northwest of fence post, marked "U. S. G. S."; hub.....	37 54 13.99	86 01 12.34	720
West side of road, opposite peach tree near house; hub.....	37 54 40.98	86 01 35.09	3,283
Garnettsville, 0.6 mile south of, 100 feet north from brow of hill, on east side of road, 25 feet south of telegraph pole, painted "U. S. P. B. M.", in top of flat stone; aluminum tablet stamped "Prim. Trav. Sta. No. 148, 1918. Elev. 638." Elevation 638.572 feet (194.637 meters).....	37 54 46.26	86 01 33.84	543
Center of road, 9 feet southwest of maple tree and 20 feet east of 14-inch black-oak tree; cross on rock.....	37 55 04.05	86 01 41.17	1,894
Garnettsville, 0.4 mile south of, on west side of road, top of 24-inch oak stump; copper nail and washer; corner fence post is marked "U. S. T. B. M. 576.8." Elevation 576.99 feet (175.867 meters). Iron post No. 174 (previously described).....	37 55 15.52	86 01 39.88	1,165

Magnetic declination, 1° 11' E.

## From post No. 146 to post No. 147 (spur line).

Iron post No. 146 (previously described).....	37 54 06.95	86 01 13.64	.....
Grayhampton, in top of north stone and concrete abutment of bridge over Otter Creek, on west side; bronze tablet stamped "Prim. Trav. Sta. No. 147, 1918. Elev. 521." Elevation 520.759 feet (158.727 meters).....	37 54 09.14	86 01 37.44	1,921

## From Grayhampton south to McCracken Spring (leveled twice).

Grayhampton Mill dam; top of large iron bolt; head gate wall 65 feet north is marked "U. S. T. B. M. 510.3." Elevation 510.44 feet (155.582 meters).			
Grayhampton, 50 feet southwest of schoolhouse, in root of 16-inch box-elder tree; copper nail and washer, tree marked "U. S. T. B. M. 536.3." Elevation 536.50 feet (163.525 meters).			
Grayhampton, 0.5 mile south of, 900 feet down stream from Thompson's mill dam, on south side of McCracken Branch, in south end of foot bridge; copper nail and washer, bridge marked "U. S. T. B. M. 518.4." Elevation 518.54 feet (158.052 meters).			
Grayhampton, 0.75 mile south of, top of center of Thompson's mill dam, top of bolt head, head gate of mill race, marked "U. S. T. B. M. 529.2." Elevation 529.42 feet (161.368 meters).			
Grayhampton, 1.01 miles south of, 310 feet northwest of McCracken Spring, on west bank of McCracken Branch, in root of 16-inch leaning sycamore tree; copper nail and washer, tree marked "U. S. T. B. M. 544.6." Elevation 544.75 feet (166.041 meters).			
Grayhampton, 1.1 miles south of, at McCracken Spring, 9 feet southwest from top of south inside corner of main outlet, 3.5 feet west from south edge of south outlet, in rock ledge; bronze tablet stamped "555 1918"; sycamore tree 20 feet west is marked "U. S. P. B. M. 555.0." Elevation 555.190 feet (169.222 meters).			

From post No. 129 via highways and Louisville, Henderson &amp; St. Louis R. R. to post No. 121.

Primary leveling by E. E. Harris in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Bartles School, 1.2 miles south of, in south corner of grass triangle formed by forks of road west, in hub; copper nail and washer, hub marked "U. S. T. B. M. 768.0." Elevation 768.07 feet (234.108 meters).			
T road west; hub.....	37 57 36.40	86 00 04.46	<i>Feet.</i> 1,222
Bartles School, 0.9 mile south of, at lane crossing, in southeast corner of, in root on west side of 8-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 737.7." Elevation 737.76 feet (224.870 meters).			
Muldraugh, 1.75 miles north of, at crossroads; iron post stamped "Prim. Trav. Sta. No. 130, 1918. Elev. 742.0." Elevation 742.086 feet (226.188 meters).....	37 57 52.89	86 00 14.80	1,863
Road forks; hub.....	37 58 01.83	86 00 24.04	1,169
Bartles School, 0.5 mile south of, at forks with road east, on west side of road, 4 feet south of telephone pole, in hub; copper nail and washer, hub marked "U. S. B. M. 724.1." Elevation 724.11 feet (220.710 meters).			
Cross on rock.....	37 58 12.03	86 00 33.26	1,270
Iron post No. 131 (previously described).....	37 58 09.05	86 00 46.81	1,127
Bartles School, 0.4 mile west of, in northwest corner of road crossing, in root of sycamore tree, 1 foot east of t. b. m. a copper nail and washer in same root; nail. Elevation of b. m. 414.28 feet (126.272 meters).			
Bartles station, 1.1 miles south of, at road crossing, in northwest corner of crossroad plank; copper nail and washer, marked "U. S. T. B. M. 444.1." Elevation 444.28 feet (135.415 meters).	37 58 03.88	86 01 13.03	2,165
West rail of Louisville, Henderson & St. Louis R. R., 12 feet south of road crossing.....	37 57 55.49	86 01 41.07	2,402

Primary traverse by Capt. E. C. Bebb in 1918.

Road crossing, west rail. ....	37 58 19.09	86 01 32.21	2,490
Bartles station, 0.4 mile south of, 140 feet north of milepost 28, at road crossing, in northeast end of crossroad plank; copper nail and washer, marked "U. S. T. B. M. 448.6." Elevation 448.75 feet (136.780 meters).			
Bartles, 0.17 mile south of station, at road crossing, 20 feet west of west rail of Louisville, Henderson & St. Louis R. R., 7 feet south-east of railroad crossing signboard; iron post stamped "Prim. Trav. Sta. No. 133, 1918. Elev. 449." Elevation 449.443 feet (136.990 meters).....	37 58 30.39	86 01 29.90	1,157
Bartles, in front of station, top of east rail. Elevation 450.3 feet (137.25 meters).			
Bartles station, t. b. m. on east rail at.....	37 58 41.13	86 01 27.22	1,108
Bartles, 0.6 mile north of, at southwest corner of road crossing, 10 feet west of west rail; iron post stamped "Prim. Trav. Sta. No. 134, 1918. Elev. 445." Elevation 444.772 feet (135.566 meters)...	37 59 13.82	86 01 20.06	3,354
Pilcher, 0.2 mile southwest of, at lane crossing, northeast corner of crossroad plank; copper nail and washer, marked "U. S. T. B. M. 440.0." Elevation 440.20 feet (134.173 meters).			
Pilcher, 15 feet north of road crossing, west of Louisville, Henderson & St. Louis R. R., opposite station; iron post stamped "Prim. Trav. Sta. No. 135, 1918. Elev. 439." Elevation 438.822 feet (133.754 meters).....	37 59 32.45	86 00 50.36	3,032
T. b. m. on north rail.....	37 59 26.84	86 00 08.90	3,366
Pilcher, 1.0 mile east of, at northwest corner of trestle over creek; copper nail and washer, marked "U. S. T. B. M. 438.3." Elevation 438.58 feet (133.680 meters).			
Bridge, west rail, 6 feet from north end of, opposite warning sign...	37 59 16.84	85 59 52.45	1,660
Howard station, 1.7 miles west of, 1.4 miles east of Pilcher station, in northwest corner of crossroad; iron post stamped "Prim. Trav. Sta. No. 121, 1918. Elev. 437." Elevation 436.578 feet (133.069 meters).....	37 59 11.79	85 59 33.49	1,601

Magnetic declination, 1° 11' E.

## From post No. 144 southeast to post No. 157.

Primary traverse by O. B. Walsh in 1918; primary leveling by R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Garnettsville, about 2.7 miles north of, on northeast corner of T road east; iron post stamped "Prim. Trav. Sta. No. 144, 1918. Elev. 462." Elevation 461.880 feet (140.781 meters).....	° ' "	° ' "	<i>Feet.</i>
Muldraugh, 2.5 miles northwest of, on north side of road fork, in root of 8-inch birch tree; copper nail and washer, tree marked "U. S. T. B. M. 632.5." Elevation, 632.65 feet (192.832 meters). East side of road, 4 feet west of telegraph pole at south end of tobacco patch; hub.....	37 57 11.49	86 01 37.67	-----
Muldraugh, 2.0 miles northwest of, on north side of road, 60 feet west of T road north, 33 feet west of gate; hub, copper nail and washer, gate is marked "U. S. T. B. M. 686.9." Elevation 687.13 feet (209.438 meters).....	37 56 52.62	86 01 15.98	2,58
Muldraugh, 1.5 miles northwest of, 42 feet east of center of main road, 8 feet north of center of T road east to W. H. Adams's farm; iron post stamped "Prim. Trav. Sta. No. 200, 1918. Elev. 705." Elevation 705.355 feet, (214.992 meters).....	37 56 47.19	86 01 14.59	561
South side of road, opposite white farmhouse; hub.....	37 56 24.99	86 01 00.76	2,505
Muldraugh, 1.1 miles west of, 50 feet east of gate, on south side of road, in front of two-story house; top of hub, copper nail and washer, gate marked "U. S. T. B. M. 685.7." Elevation 685.90 feet (209.062 meters).	37 56 10.75	86 00 41.42	2,115
Post No. 157 (previously described).....	37 56 02.80	86 00 09.60	2,674

## From post No. 160 to post No. 144 to post No. 132.

Primary leveling by R. B. Steele in 1918.

Post No. 160 (previously described).....	37 55 52.51	86 01 43.35	-----
Center of farm road north.....	37 55 56.02	86 01 47.86	506

## Primary traverse by Capt. E. C. Bebb in 1918.

Garnettsville, 1.2 miles north of, on west side of road, at T road west, t. b. m. in root of 14-inch elm tree; copper nail and washer, tree marked "U. S. T. B. M. 438.0." Elevation 438.18 feet (133.558 meters).....	37 56 06.53	86 01 54.21	1,178
Center of farm road east.....	37 56 18.72	86 01 51.67	1,250
Garnettsville, 1.7 miles north of, 10 feet east of edge of road, 30 feet south of Otter Creek, near ford; iron post stamped "Prim. Trav. Sta. No. 143, 1918. Elev. 416." Elevation 416.290 feet (126.835 meters).....	37 56 27.77	86 01 44.94	1,062
Garnettsville, 2.0 miles north of, 0.3 mile north of Otter Creek, east side of road, in top of 6-foot sycamore stump; copper nail and washer, stump marked "U. S. T. B. M. 408.6." Elevation 408.79 feet (124.600 meters).....	37 56 41.07	86 01 48.08	1,369
West side of road, beside log; hub.....	37 56 47.68	86 01 48.29	669
Garnettsville, 2.2 miles north of, north side of T road east, in hub; copper nail and washer, marked "U. S. T. B. M. 421.0." Elevation 421.21 feet (128.385 meters).....	37 56 51.23	86 01 45.92	407
Edge of road, 3 feet west of gatepost, opposite tree with t. b. m. ....	37 56 55.14	86 01 40.48	590
Garnettsville, 2.5 miles north of, 600 feet north of Otter Creek, 540 feet northwest of Withers sawmill, 45 feet west of road, in root of 8-inch honey-locust tree; copper nail and washer, tree marked "U. S. T. B. M. 414.4." Elevation 414.60 feet (126.370 meters).			
Iron post No. 144 (previously described).....	37 57 11.49	86 01 37.67	1,669
T road north, 18 feet northwest of t. b. m. in center of road; hub.....	37 57 14.44	86 01 39.64	337
East side of road; hub.....	37 57 16.62	86 01 54.77	1,232
Center of Otter Creek, 12 feet above foot log across creek.....	37 57 19.36	86 02 03.24	733
East rail of Louisville, Henderson & St. Louis R. R. ....	37 57 26.84	86 02 02.79	758
Bartles, 1.2 miles south of, 530 feet south of road crossing, 8 feet east of center of track, 10 feet north of north end of trestle over Otter Creek; iron post stamped "Prim. Trav. Sta. No. 132, 1918. Elev. 442." Elevation 442.372 feet (134.835 meters).....	37 57 51.11	86 01 43.90	2,882

Magnetic declination, 1° 13' E.

## From post No. 144 to point near post No. 131.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Post No. 144 (previously described).....	37 57 11.49	86 01 37.67	.....
T road north; hub.....	37 57 14.44	86 01 39.64	337
Garnettsville, 3.0 miles north of, on north bank of small creek where road angles west, on south edge of road northwest and north side of road west, in top of square stone near large sycamore tree beside creek; chiseled square, twin sycamore tree 10 feet south is marked "U. S. T. B. M. 401.5." Elevation 401.72 feet (122.444 meters).....	37 57 11.97	86 01 30.00	812
Center of road, 2 feet north of a t. b. m. on tree described below.....	37 57 21.09	86 01 29.04	926
Garnettsville, 3.2 miles north of, 150 feet east of Otter Creek, on south side of road, in root of 48-inch elm tree; wire nail, tree marked "401.3." Elevation 401.46 feet (122.367 meters).			
Garnettsville, 3.3 miles north of, 50 feet west of Potter's Creek, on east side of road, at west end of board gate, top of stone; chiseled square, gate is marked "U. S. T. B. M. 411.8." Elevation 411.97 feet (125.569 meters).			
8 feet northwest of above-described bench mark.....	37 57 24.15	86 01 22.78	589
T. b. m. (not described).....	37 57 30.28	86 01 29.27	809
West side of road, near large elm; hub.....	37 57 38.28	86 01 23.13	947
Garnettsville, 4.0 miles north of, on west side of road, near a spring and trough, in root of 16-inch sycamore tree; copper nail and washer, tree is marked "U. S. T. B. M. 397.2." Elevation 397.33 feet (121.107 meters).....	37 57 49.86	86 01 22.22	1,173
Nail in root of sycamore tree.....	37 58 03.88	86 01 13.03	1,597

Magnetic declination, 0° 46' E.

Tie line from post No. 132 to Ohio River Survey triangulation station b. m. No. 949.

Primary traverse by Capt. E. C. Bebb in 1918.

Prim. Trav. Sta. No. 132 (previously described).....	37 57 51.11	86 01 43.90	.....
Δ b. m. No. 949, Ohio River Survey.....	37 57 55.38	86 01 41.21	483

No magnetic declination.

## KOSMOSDALE QUADRANGLE.

From West Point northeast along Dixie Highway to post No. 164.

Primary leveling by E. E. Harris in 1918; primary traverse by H. S. Senseney in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
West Point, in west wall of Bank of West Point, in center of win- dow sill, 4 feet above ground; bronze tablet stamped "441." Elevation 441.204 feet (134.478 meters).			
West Point, 0.3 mile northeast of, at highway bridge near Salt River, south end of west bridge seat; chiseled square marked "441.8." Elevation 441.78 feet (134.655 meters).			
South side of road, at east end of highway bridge over Salt River; hub.....	38 00 06.40	85 56 28.35	.....
West Point, 0.9 mile east of east end of highway bridge over Salt River, on north side of Dixie Highway at T road south; iron post stamped "Prim. Trav. Sta. No. 162, 1918. Elev. 424." Elevation 424.058 feet (129.253 meters).....	38 00 21.45	85 56 12.82	1,964
West Point, 1.0 mile northeast of, on east side of Dixie Highway, in center of top of concrete culvert; chiseled square, marked "U. S. 426.6." Elevation 426.63 feet (130.037 meters).			
West Point, 1.6 miles east of Salt River bridge, on south side of Dixie Highway, east side of gate, at lane south; iron post stamped "Prim. Trav. Sta. No. 163, 1918. Elev. 429." Elevation 429.305 feet (130.852 meters).....	38 00 46.11	85 55 36.56	3,826
West Point, 1.8 miles northeast of, in northeast corner of cross lane, on top of drain pipe; chiseled square, marked "U. S. T. B. M. 434.9." Elevation 434.90 feet (132.557 meters).			
T lane south, at southwest corner of; hub.....	38 01 05.52	85 55 16.00	2,560
West Point, 2.1 miles northeast of, in corner of second-class road crossing, top of drain pipe; chiseled square, marked "U. S. T. B. M. 431.8." Elevation 431.84 feet (131.625 meters).			
West Point, 2.6 miles east of Salt River bridge, 50 feet south of point where Dixie Highway crosses Illinois Central R. R., east side of road; iron post stamped "Prim. Trav. Sta. No. 164, 1918. Elev. 439." Elevation 439.448 feet (133.944 meters).....	38 01 29.57	85 54 56.03	2,909

## Southeast along highways to Cupio.

Station.	Latitude.	Longitude.	Distance between stations.
Stites station, 0.46 mile northwest of, on north side of iron bridge over Pond Creek, in center of horizontal beam; copper nail and washer, marked "U. S. T. B. M. 416.6." Elevation 416.60 feet (126.980 meters).			
Bridge over Pond Creek, south end of, west side of road; hub.....	38 01 16.31	85 54 38.22	<i>Feet.</i> 1,959
Stites station, south side of road, 3 feet east of trestle; hub.....	38 01 00.66	85 54 10.68	2,340
Stites station, 200 feet south of, on south side of road, at overhead crossing of Louisville, Henderson & St. Louis R. R., in hub; copper nail and washer, marked "U. S. T. B. M. 421.1." Elevation 421.07 feet (128.342 meters).			
Stites station, 0.3 mile east of, south side of road, in line with T road south; iron post stamped "Prim. Trav. Sta. No. 165, 1918. Elev. 433." Elevation 433.083 feet (132.004 meters).....	38 00 56.71	85 54 00.11	1,385
Stites station, 0.44 mile southeast of, on south edge of road, in line with road north, 5 feet west of letter box, in hub; copper nail and washer, marked "U. S. T. B. M. 568.3." Elevation, 468.26 feet (142.726 meters).			
Road, north edge of, 12 feet west of gate to small white house.....	38 01 02.02	85 53 39.22	1,756
Stites station, 0.9 mile east of, 0.31 mile northwest of Nichol School, on north side of road, in top of drain pipe; chiseled square, marked "U. S. T. B. M. 434.1." Elevation, 434.05 feet (132.298 meters).			
Stites station, 1 mile east of, north side of road, about 400 or 600 feet west of Knob Creek or Nichols schoolhouse, opposite T lane south; iron post stamped "Prim. Trav. Sta. No. 166, 1918. Elev. 458." Elevation 457.805 feet (139.539 meters).....	38 00 52.54	85 53 09.37	2,573
Stites station, 1.3 miles east of, 600 feet east of Nichols schoolhouse, in northeast corner of road north, top of drain pipe; chiseled square marked "U. S. T. B. M. 438.8." Elevation 438.74 feet (133.729 meters).			
Knob Creek Church, in front of, south side of road; hub.....	38 00 45.80	85 52 48.48	1,806
Stites station, 1.7 miles east of, on east side of road, 50 feet north of Y road fork, at road west, top of drainpipe; chiseled square, marked "U. S. T. B. M. 429.1." Elevation 429.07 feet (130.780 meters).			
Cupio, 0.5 mile northeast of, in center of triangle made by forks of roads; iron post stamped "Prim. Trav. Sta. No. 167, 1918. Elev. 428." Elevation 428.116 feet (130.490 meters).....	38 00 32.24	85 52 28.86	2,084
Cupio, 0.24 mile northeast of, at iron bridge, 15 feet north of north end of, west side of road; hub.....	38 00 23.22	85 52 41.74	1,377
Cupio, at southwest corner of store (formerly post office), in northwest corner of woodwork around scales; copper nail and washer, marked "U. S. T. B. M. 459.3." Elevation 459.29 feet (139.991 meters).			

Magnetic declination, 0° 36' E.

From post No. 34 at West Point along Louisville &amp; Nashville R. R. to Louisville south base. (U. S. C. &amp; G. S.)

Primary traverse by Capt. E. C. Bebb, in 1918.

Δb. m. No. 937, Ohio River Survey.....	38 00 24.02	85 56 10.57	.....
Position by Ohio River Survey.....	38 00 23.97	85 56 10.44	.....
Prim. Trav. Sta. No. 164 (previously described).....	38 01 29.57	85 54 56.06	8,922
Louisville south base, about 7 miles from Louisville, a short distance east of Salt River turnpike, few meters east of Cecilian branch of the Louisville & Nashville R. R., just north of a farm-road crossing. Station is in a cultivated field belonging to B. H. Kerriek, whose house is on the opposite side of the railroad a short distance north; marked on north side "U. S. C. & G. S. South Base 1879." Granite monument 10 inches square, 12 inches out of ground.....	38 09 03.58	85 49 58.23	51,727

From post No. 131 to post No. 122.

Primary traverse by Capt. E. C. Bebb in 1918; primary leveling by R. B. Steele in 1918.

Bartles, about 1.75 miles southeast of, south side of road, at T road northwest, in front of schoolhouse; iron post stamped "Prim. Trav. Sta. No. 131, 1918. Elev. 462." Elevation 462.350 feet (140.925 meters).....	37 58 09.05	86 00 46.81	.....
Small bridge, in third plank from south end of; nail.....	37 58 19.33	86 00 57.05	1,324

From post No. 181 northeast and northwest along highways to post No. 167.

Primary traverse by H. S. Senseney in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
North side of road, at bend, 7 feet south of gate; hub.....	38 00 05.98	85 51 15.62	2,219
Stites station, 3.0 miles southeast of, thence 0.6 mile south of, southwest side of road, at road forks, in ledge; bronze tablet stamped "Prim. Trav. Sta. No. 183, 1918. Elev. 666." Elevation 666.277 feet (203.081 meters) .....	38 00 05.59	85 51 20.98	431
Stites station, 3.0 miles southeast of, thence 0.3 mile south of, in forks of lane to northeast, in hub: copper nail and washer, marked "U. S. T. B. M. 484.9." Elevation 484.84 feet (147.780 meters) .....	38 00 16.95	85 51 13.72	1,288
East side of road, at bend; hub.....	38 00 28.49	85 51 23.36	1,399
Stites station, 3.0 miles southeast of, on west side of road, 30 feet southwest of road forks, 30 feet east of Knob Creek; iron post stamped "Prim. Trav. Sta. No. 184, 1918. Elev. 440." Elevation 440.333 feet (134.213 meters) .....	38 00 29.80	85 51 35.31	966
Stites station, 2.8 miles southeast of, at Moore's store, in southwest corner of triangle at northeast corner of crossroads, 6 feet north of t. b. m. hub, copper nail and washer, marked "448.8." Elevation 448.73 feet (136.774 meters) .....	38 00 26.36	85 52 13.63	3,088
Stites station, 2.6 miles southeast of, on north side of road, at forks of lane to northeast, in west side of wooden bridge; copper nail and washer, marked "U. S. T. B. M. 488.2." Elevation 488.17 feet (148.795 meters) .....	38 00 32.24	85 52 28.86	1,357
South side of road, 8 feet west of gate; hub.....			
Post No. 167 (previously described).....			

Magnetic declination, 0°21' E.

## VINE GROVE QUADRANGLE.

From West Point along Dixie Highway to Stithton.

Primary traverse by Capt. E. C. Bebb in 1918; primary leveling by E. E. Harris in 1918.

West Point, at southwest corner of Odd Fellows Hall, in northwest corner of public school grounds; northwest corner of brick foundation to schoolhouse bears S. 27°10' E., distant 26.9 feet, southwest corner of stone foundation to Christian Church bears N. 13° 35' E., distant 13.6 feet; iron post stamped "Prim. Trav. Sta. No. 34, 1918. Elev. 436." Elevation 435.843 feet (132.845 meters) .....	37 59 54.10	85 56 57.92	.....
West Point, 0.8 miles southwest of, in center of grass triangle formed by forks of T road west, in hub; copper nail and washer, marked "U. S. T. B. M. 434.5." Elevation 434.53 feet (132.444 meters) .....			
Howard, at east end of platform, 250 feet east of station; iron post stamped "Prim. Trav. Sta. No. 100, 1918. Elev. 440." Elevation 439.642 feet (134.003 meters) .....	37 59 21.08	85 57 41.24	4,815
Howard, 0.3 mile south of station, on west side of highway, inside of wire fence and on south edge of lane to farmhouse, in hub; copper nail and washer, marked "U. S. T. B. M. 446.5." Elevation 446.51 feet (136.096 meters) .....			
Howard, 0.7 mile south of, on east side of highway, 25 feet south of drain pipe, on west side of south gate post, in top of 2 by 2 inch hub; copper nail and washer, marked "U. S. T. B. M. 435.0." Elevation 435.09 feet (132.615 meters) .....	37 58 39.51	85 57 42.61	4,206
Lane west.....			
Howard station, 1.2 miles south of, in southeast corner of T road east, on north side of dead tree, 1 foot above ground; iron bolt marked "U. S. T. B. M. 451.5." Elevation 451.52 feet (137.623 meters) .....			
West Point, 2.7 miles south of, 35 feet north of Illinois Central R. R. trestle, east side of road, at T road west; iron post stamped "Prim. Trav. Sta. No. 101, 1918. Elev. 459." Elevation 459.394 feet (140.023 meters) .....	37 58 06.96	85 57 38.95	3,305
West Point, 3.4 miles south of, on east side of road, about 100 feet east of creek, at sharp bend between two bridges about 300 feet apart; iron post stamped "Prim. Trav. Sta. No. 102, 1918. Elev. 572." Elevation 571.587 feet (174.220 meters) .....	37 57 33.19	85 57 23.50	3,633
West Point, 3.7 miles south of, on east edge of highway, at northwest corner of foot bridge over creek, in root on west side of 12-inch sycamore tree; copper nail and washer, marked "U. S. T. B. M. 601.4." Elevation 601.44 feet (183.319 meters) .....	37 57 16.44	85 57 19.84	1,719
Center of road, opposite dripping spring.....			



## From West Point along Dixie Highway to Stithton—Continued.

Station.	Latitude:	Longitude.	Distance between stations.
West Point, 4.1 miles south of, 25 feet east of center of highway, 80 feet north of barn, on north side of second-class road east, in root on east side of 15-inch hickory tree; copper nail and washer, marked "U. S. T. B. M. 648.4." Elevation 648.42 feet (197.639 meters).			
West Point, 4.2 miles south of, on southwest corner of private lane west, on top of sandstone ledge; chiseled cross in square, marked "U. S. T. B. M. 683.6." Elevation 683.65 feet (208.377 meters).			<i>Feet.</i>
West side of road, opposite Hale road; cross on rock.	37 56 50.69	85 57 01.90	2,974
West Point, 4.3 miles south of, east side of road, in line with Blakeley road; iron post stamped "Prim. Trav. Sta. No. 103, 1918. Elev. 702." Elevation 702.167 feet (214.021 meters).	37 56 49.04	85 57 01.24	175
West Point, 4.5 miles south of, on west edge of road, 30 feet north of gate to pasture, in root on east side of 12-inch sycamore tree; copper nail and washer, marked "U. S. T. R. M. 734.5." Elevation 734.53 feet (223.886 meters).			
Hub at T road east, 18 feet east of center of road.	37 56 29.33	85 57 01.27	1,994
West Point, 4.7 miles south of, 600 feet north of road west to Tip Top, in center of grass triangle formed by forks of T road east to rifle range, in hub; copper nail and washer. Elevation 765.37 feet (233.285 meters).			
West Point, 4.8 miles south of, east side of road, opposite T road west to Tip Top; iron post stamped "Prim. Trav. Sta. No. 104, 1918. Elev. 781." Elevation 780.779 feet (237.981 meters).	37 56 23.45	85 56 59.77	606
Stithton, 1.1 miles northeast of, thence 2.1 miles north, east side of road, 17 feet south of T road east; iron post stamped "Prim. Trav. Sta. No. 105, 1918. Elev. 750." Elevation 750.030 feet (228.609 meters).	37 56 01.85	85 56 57.53	2,192
Stithton, 1.1 miles northeast of, thence 1.8 miles north, in northwest corner of T road west, in root on east side of 15-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 764.0." Elevation 764.05 feet (232.883 meters).			
Private road west.	37 55 47.65	85 56 54.25	1,460
Stithton, 1.1 miles northeast of, thence 1.6 miles north, on west side of road, 10 feet east of gate, at corner of fence, in hub; copper nail and washer, marked "U. S. T. B. M. 770.2." Elevation 770.29 feet (234.784 meters).			
Stithton, 1.1 miles northeast of, thence 1.2 miles north, at northeast corner of T road east, Craig road; iron post stamped "Prim. Trav. Sta. No. 106, 1918. Elev. 767." Elevation 766.746 feet (233.704 meters).	37 55 17.29	85 56 40.87	3,253
Stithton, 1.1 miles northeast of, thence 0.9 mile north, on west side of road, on south side of gate, in east root of 12-inch oak tree; copper nail, marked "U. S. T. B. M. 752.0." Elevation 752.06 feet (229.228 meters).			
Stithton, 1.1 miles northeast of, thence 0.6 mile north, on east side of Dixie Highway, in center of concrete culvert; chiseled square, marked "U. S. T. B. M. 699.3." Elevation 699.36 feet (213.169 meters).			
Hub at northeast corner of T road east.	37 54 27.30	85 56 32.39	5,102
Stithton, 1.1 miles northeast of, on east side of Dixie road, opposite T road southwest to Stithton; iron post stamped "Prim. Trav. Sta. No. 107, 1918. Elev. 708." Elevation 707.887 feet (215.764 meters).	37 54 16.54	85 56 27.16	1,167
Stithton, 0.6 mile northeast of, 40 feet east of pasture, on north side of road, 2,500 feet west of Dixie Highway, in hub; copper nail and washer, marked "U. S. T. B. M. 725.3." Elevation 725.37 feet (221.093 meters).	37 54 01.06	85 56 51.63	2,509
Stithton, 0.4 mile east of, at northeast corner of T road north, 700 feet east of schoolhouse; iron post stamped "Prim. Trav. Sta. No. 108, 1918. Elev. 737." Elevation 737.283 feet (224.724 meters).	37 53 52.95	85 57 02.00	1,168
Stithton, 105 feet northwest of railroad crossing at station, south side of street, in concrete foundation of pump; bronze tablet stamped "Prim. Trav. Sta. No. 109, 1918. Elev. 737." Elevation 736.930 feet (224.616 meters).	37 53 41.13	85 57 25.36	2,221
Stithton, 0.3 mile west of station, at southwest corner of Main Street and Bloomington road, 60 feet west of road intersection; iron post stamped "Prim. Trav. Sta. No. 110, 1918. Elev. 749." Elevation 749.383 feet (228.413 meters).	37 53 29.31	85 57 40.13	1,682

Magnetic declination, 1° 23' E.

From post No. 128 west to post No. 129, thence south to post No. 156.

Primary traverse by O. B. Walsh in 1918; primary leveling by R. B. Steele and E. E. Harris in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Twin Cave station, 0.9 mile east of, on east edge of road, at T road west, 8 feet northwest of marked chestnut tree; iron post stamped "Prim. Trav. Sta. No. 128, 1918. Elev. 775." Elevation 774.896 feet (236.189 meters).....	37 57 09.63	85 58 40.64	289
Hub at road crossing.....	37 57 10.58	85 58 44.04	
Twin Cave station, 0.6 mile east of, 60 feet west of T road north, in root of 36-inch chestnut tree; copper nail and washer, tree is marked "U. S. T. B. M. 747.3." Elevation 747.47 feet (227.289 meters).....			
Farm road northeast.....	37 57 16.09	85 59 06.15	1,857
At right angle turn south, 7 feet northeast of center of road.....	37 57 19.56	85 59 20.00	1,168
Hub at T road north.....	37 57 15.48	85 59 23.77	508
Hub at T road north, in center of road.....	37 57 16.00	85 59 28.81	407
Twin Cave, opposite station signboard, 25 feet west of west rail, in east edge of platform, bolthead marked "U. S. T. B. M. 683.5." Elevation 683.64 feet (208.374 meters).....			
East rail of Illinois Central R. R., center of road.....	37 57 16.30	85 59 31.48	216
Center of farm road east.....	37 57 16.17	85 59 42.49	882
Twin Cave station, 0.4 mile west of, west side of road, at T road east; iron post stamped "Prim. Trav. Sta. No. 129, 1918. Elev. 749." Elevation 748.800 feet (228.238 meters).....			
Center of farm road northeast.....	37 57 13.70	85 59 51.42	757
Muldraugh, 0.1 mile west thence 0.5 mile north of, at T road west, in southwest corner of grass triangle formed by forks, in hub; copper nail and washer marked "U. S. T. B. M. 743.2." Elevation 743.35 feet (226.574 meters).....	37 56 59.08	85 59 53.67	1,490
Muldraugh, 800 feet west of railroad crossing, south side of road, in line with T road north; iron post stamped "Prim. Trav. Sta. No. 156, 1918. Elev. 721." Elevation 720.978 feet (219.754 meters).....	37 56 22.47	85 59 39.06	3,882

Magnetic declination, 1° 21' E.

From post No. 170 along highways to Chapel Ridge Schoolhouse.

Primary traverse by H. S. Senseney in 1918; primary leveling by E. E. Harris in 1918.

Cupio, 1.5 miles southwest of, in center of grass triangle, on northeast side of road up Salt River, in line with road northeast to Cupio; iron post stamped "Prim. Trav. Sta. No. 170, 1918. Elev. 422." Elevation 422.121 feet (128.663 meters).....	37 59 13.58	85 53 45.14	
West side of road, on south side of gate; hub.....	37 58 41.83	85 53 31.54	3,391
Chapel Ridge School, 1.6 miles north of, in southwest corner of T road west to river, in hub; copper nail and washer marked "U. S. T. B. M. 724.1." Elevation 724.04 feet (220.688 meters).....			
Chapel Ridge School, about 1.5 miles northwest of, south side of road, 30 feet east of T road south; iron post stamped "Prim. Trav. Sta. No. 185, 1918. Elev. 708." Elevation 707.997 feet (215.798 meters).....	37 58 31.14	85 53 22.21	1,314
On east side of road, at bend; hub.....	37 58 25.32	85 53 05.68	1,447
Chapel Ridge School, about 0.6 mile north of, 20 feet north of road at bend, 25 feet southwest of old tobacco house; iron post stamped "Prim. Trav. Sta. No. 186, 1918. Elev. 726." Elevation 725.639 feet (221.175 meters).....			
At road forks; hub.....	37 58 08.36	85 52 43.37	2,476
Chapel Ridge School, 40 feet north of, 70 feet south of road, in root on north side of 18-inch maple tree; copper nail and washer, marked "U. S. T. B. M. 773.5." Elevation 773.38 feet (235.727 meters).....	37 57 43.42	85 52 38.88	2,549
Chapel Ridge School, at road forks; hub.....	37 57 39.59	85 52 34.05	547

From Chapel Ridge School along highways to Charles Funk's residence.

At road forks; hub.....	37 57 39.60	85 52 24.89	733
Chapel Ridge School, 0.2 mile southeast of, northeast side of road, 15 feet north of road forks; iron post stamped "Prim. Trav. Sta. No. 187, 1918. Elev. 737." Elevation 736.674 feet (224.538 meters).....	37 57 35.81	85 52 20.43	524
East side of road, front of house; hub.....	37 57 41.93	85 52 02.40	1,570
Chapel Ridge School, 0.4 mile east of, on southeast side of road, 20 feet east of lane south, in top of sandstone boulder; chiseled square, marked "U. S. T. B. M. 810.2." Elevation 810.13 feet (246.928 meters).....			
Chapel Ridge School, 0.9 mile northeast of, 55 feet southwest of gate to Steve McCobbin's residence, southeast side of road; iron post stamped "Prim. Trav. Sta. No. 188, 1918. Elev. 737." Elevation 737.323 feet (224.736 meters).....	37 57 56.93	85 51 40.76	2,304

## From Chapel Ridge School along highways to Charles Funk's residence—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
Chapel Ridge School, 1.6 miles northeast of, on south side of road, in center of top of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 728.3." Elevation 728.22 feet (221.962 meters).			
Chapel Ridge School, about 1.5 miles northeast of, north side of road opposite T road south; iron post stamped "Prim. Trav. Sta. No. 189, 1918. Elev. 730." Elevation 729.809 feet (222.447 meters).	37 58 16.73	85 51 04.02	Feet. 3,560
Chapel Ridge School, 1.9 miles northeast of, on south edge of road, in bend, on sandstone ledge; chiseled square, marked "U. S. T. B. M. 719.1." Elevation 719.02 feet (219.153 meters).			
Mount Olive School, 0.34 mile west of, thence 1.3 miles southeast, south side of road, in northwest corner of W. Whiteman's front yard opposite road north; iron post stamped "Prim. Trav. Sta. No. 190, 1918. Elev. 788." Elevation 788.375 feet (240.297 meters).	37 58 28.54	85 50 36.54	2,504
Mount Olive School, 0.3 mile west of, thence 1.1 miles southeast, at forks of farm road west, 80 feet south of creek, in hub; chiseled square, marked "U. S. T. B. M. 556.7." Elevation 556.56 feet (169.640 meters).			
On south side of road, at road south through gate; hub.....	37 58 38.89	85 50 48.89	1,440
Mount Olive School, 0.3 mile west thence 0.4 mile southeast from, on east side of road, in bed of drain from northeast, in sandstone ledge; chiseled square, marked "U. S. T. B. M. 711.6." Elevation 711.48 feet (216.859 meters).			
On east side of road, 2 feet south of small wooden bridge, 45 feet south of road forks; hub.....	37 59 04.09	85 50 50.04	2,551
On east side of road, 25 feet north of road forks; hub.....	37 59 10.04	85 50 51.35	612
Mount Olive School, 0.3 mile west of, about 2 miles southeast of Cupio, north side of road, 15 feet west of road forks at Charles Funk's residence; iron post stamped "Prim. Trav. Sta. No. 181, 1918. Elev. 779." Elevation 778.452 feet (237.273 meters).....	37 59 12.81	85 51 18.83	2,218

## Northwest via Ridge road to post No. 169.

Mount Olive School, 0.7 mile southwest of, in center of grass triangle at road fork to north, in top of stump; copper nail and washer, marked "U. S. T. B. M. 818.0." Elevation 817.94 feet (249.309 meters).			
At northwest corner of T road north; hub.....	37 59 04.79	85 51 38.74	1,788
Cupio, 1.0 mile southwest thence 1.2 miles southeast from, in center of grass triangle at road fork south, in hub; copper nail and washer, marked "U. S. T. B. M. 808.4." Elevation 808.33 feet (246.380 meters).			
Cupio, 1.0 mile southwest thence 0.8 mile southeast from, south side of road, front of Jacob Murker's residence, 25 feet east of lane; iron post stamped "Prim. Trav. Sta. No. 180, 1918. Elev. 769." Elevation 769.127 feet (234.431 meters).	37 59 18.06	85 52 38.27	2,357
Cupio, 1.0 mile southwest thence 0.3 mile southeast from, in center of grass triangle at farm road south, in hub; copper nail and washer, marked "U. S. T. B. M. 763.8." Elevation 763.72 feet (232.782 meters).			
South side of road, top of hill; hub.....	37 59 36.57	85 53 02.05	2,671
Cupio, 1 mile southwest of, at southwest corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 169, 1918. Elev. 733." Elevation 732.477 feet (223.259 meters).....	37 59 41.06	85 53 17.84	1,343

Magnetic declination, 0° 0'.

## From post No. 185 along highways south and northeast to post No. 187.

Prim. Trav. Sta. No. 185 (previously described).....	37 58 31.14	85 53 22.21	.....
Chapel Ridge School, 1.5 miles northwest thence 0.3 mile south from, on west side of road, 120 feet north of drainpipe, on sandstone ledge; chiseled square, marked "U. S. T. B. M. 571.1." Elevation 571.09 feet (174.068 meters).			
East side of road at bend; hub.....	37 58 15.05	85 53 23.60	1,632
West side of road, at farm road west; hub.....	37 57 58.21	85 53 30.56	1,793
Chapel Ridge School, 1.5 miles northwest thence 0.6 mile south from, in center of grass triangle formed by roads in three directions, in hub; copper nail and washer, marked "U. S. T. B. M. 458.7." Elevation 458.66 feet (139.800 meters).			
Chapel Ridge School, about 1 mile west of, west side of road, in line with T road west; iron post stamped "Prim. Trav. Sta. No. 191, 1918. Elev. 460." Elevation 460.389 feet (140.327 meters).....	37 57 37.63	85 53 31.41	2,083
Chapel Ridge School, 1 mile west of, thence 0.2 mile south, in southwest corner of road forks in hub; copper nail and washer, marked "U. S. T. B. M. 478.2." Elevation 478.17 feet (145.747 meters).			
South side of road, front of house, 10 feet east of t. b. m.; hub.....	37 57 29.03	85 53 21.82	1,161

From post No. 185 along highways south and northeast to post No. 187—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
Chapel Ridge School, 1 mile west thence 0.6 mile south from, in northwest corner of road forks, in root on east side of 30-inch beech tree; copper nail and washer, marked "U. S. T. B. M. 435.8." Elevation 435.76 feet (132.820 meters).			
West side of road, at farm road west; hub.....	37 57 09.98	85 53 21.31	Feet. 1,928
Chapel Ridge School, about 1.5 miles southwest of, east side of road, 35 feet north of William Hite's residence; iron post stamped "Prim. Trav. Sta. No. 192, 1918. Elev. 452." Elevation 452.019 feet (137.776 meters).....	37 56 56.94	85 53 21.07	1,320
South side of road; hub.....	37 56 44.40	85 53 12.30	1,451
Chapel Ridge School, about 1 mile south of, southeast side of road; iron post stamped "Prim. Trav. Sta. No. 193, 1918. Elev. 423." Elevation 423.414 feet (129.057 meters).....	37 56 58.74	85 52 42.91	2,764
Chapel Ridge School, 0.2 mile east thence 0.4 mile south from, at forks of River and Shively roads, in line with road north; in hub, copper nail and washer, marked "U. S. T. B. M. 465.3." Elevation 465.30 feet (141.823 meters).....	37 57 14.36	85 52 23.43	2,219
West side of road; hub.....	37 57 30.59	85 52 22.10	1,644
Prim. Trav. Sta. No. 187 (previously described).....	37 57 35.11	85 52 20.42	544

Magnetic declination, 0° 27' E.

From Cuplo along highways to West Point via Katharyn.

Cuplo, 0.3 mile southwest of McKinley's store, northwest side of road, 25 feet southwest of gate; iron post stamped "Prim. Trav. Sta. No. 168, 1918. Elev. 446." Elevation 445.888 feet (135.907 meters).....	38 00 08.74	85 53 01.21	2,139
Cuplo, 0.7 mile southwest of, 500 feet east of farm house, at sharp bend, northwest side of road, in hub; copper nail and washer, marked "U. S. T. B. M. 662.5." Elevation 662.45 feet (201.915 meters).....	37 59 52.47	85 53 10.31	1,799
Cuplo, 1.0 mile southwest of, on top of Highland Ridge, at southwest corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 169, 1918. Elev. 733." Elevation 732.477 feet (223.259 meters).....	37 59 41.06	85 53 17.84	1,304
Cuplo, 1.2 miles southwest of, on east edge of road, at start of drain, in top of sandstone ledge; chiseled square marked "U. S. T. B. M. 597.9." Elevation 597.82 feet (182.216 meters).			
Cuplo, 1.6 miles southwest of, on east side of road up Salt River, in line with road to Cuplo; iron post stamped "Prim. Trav. Sta. No. 170, 1918".....	37 59 13.58	85 53 45.14	3,536
Katharyn, 2.1 miles southeast of, on northeast side of road, in elbow of 15-inch drainpipe; chiseled square, marked "U. S. T. B. M. 459.3." Elevation 459.28 feet (139.983 meters).			
Katharyn, 1.5 miles southeast of, 60 feet east of sharp bend in road, near Buzzard's Roost, north side of road; iron post stamped "Prim. Trav. Sta. No. 171, 1918. Elev. 465." Elevation 464.567 feet (141.600 meters).....	37 59 32.70	85 54 28.41	3,968
Katharyn, 1.2 miles southeast of, in bend of road, on southwest side of, 8 feet northeast of large oak tree, in hub, copper nail and washer, marked "U. S. T. B. M. 426.5." Elevation 426.51 feet (130.000 meters).			
House in hollow, 50 feet south of gate to, east side of road, 5 feet north of large iron drainpipe; hub.....	37 59 39.53	85 54 52.96	2,083
Katharyn, 0.6 mile southeast of, southwest side of road up Salt River, 20 feet south of road east to Cuplo; iron post stamped "Prim. Trav. Sta. No. 172, 1918. Elev. 452." Elevation 452.149 feet (137.815 meters).....	37 59 41.53	85 55 27.58	2,779
Katharyn, 0.5 mile southeast of, on north side of road, in top of 2-foot drain pipe; chiseled square, marked "U. S. T. B. M. 427.0." Elevation 427.01 feet (130.153 meters).			
Lane west, at sharp bend in road; hub.....	37 59 46.21	85 55 42.47	1,282
Katharyn, 4 feet south of south rail of main line, 4 feet east of east edge of road, at railroad crossing; hub.....	38 00 02.17	85 55 44.74	1,624
Katharyn, 60 feet north of station, in northeast corner of road crossing, in hub; copper nail and washer, marked "U. S. T. B. M. 441.1." Elevation 441.16 feet (134.466 meters).			
East end of Louisville, Henderson & St. Louis R. R. bridge over Salt River, 6 feet east of, 3 feet south of south rail; hub.....	37 59 47.94	85 56 03.68	2,091
Katharyn, 0.6 mile southwest of, 0.5 mile southeast of West Point, 0.7 mile east of Louisville, Henderson & St. Louis R. R. station, 10 feet southwest of west end of trestle approach to Louisville, Henderson & St. Louis R. R. bridge over Salt River; iron post stamped "Prim. Trav. Sta. No. 115, 1918. Elev. 445." Elevation 445.070 feet (135.657 meters).....	37 59 45.93	85 56 12.92	767

Magnetic declination, 0° 24' W.

## From post No. 103 along highways to Muldraugh.

Primary leveling by R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Iron post No. 103 (previously described).....	27 56 49.04	85 57 01.24	.....
Muldraugh, 2.2 miles east of, 0.5 mile west of Dixie Highway, on north side of Blakley road, 5 feet east of gate; iron post stamped "Prim. Trav. Sta. No. 150, 1918. Elev. 737." Elevation 737.291 feet (224.727 meters).....	37 56 37.12	85 57 32.86	2,806
Muldraugh, 1.8 miles northeast of, 50 feet west of private road south, in north end of wood culvert; copper nail and washer, culvert marked "U. S. T. B. M. 716.4." Elevation 716.51 feet (218.392 meters).....			
Muldraugh, 1.5 miles northeast of, on north side of Blakley road, opposite Wilbur Chapman's residence; iron post stamped "Prim. Trav. Sta. No. 151, 1918. Elev. 748." Elevation 748.288 feet (228.079).....	37 56 26.39	85 58 15.95	3,619
Muldraugh, 0.7 mile northeast of, 10 feet south of road on line with Blakley road, in hub; copper nail and washer; post 12 feet southwest is marked "U. S. T. B. M. 769.3." Elevation 769.50 feet (234.544 meters).....	37 56 41.40	85 58 44.89	2,772
Muldraugh, 0.6 mile east of, north side of road, 6 feet east of gate; iron post stamped "Prim. Trav. Sta. No. 155, 1918. Elev. 750." Elevation 750.286 feet (228.681 meters).....	37 56 39.01	85 58 56.59	968
Muldraugh, 0.1 mile northeast of, south side of road, at T road south, in hub; copper nail and washer; a telephone pole 20 feet north is marked "U. S. T. B. M. 752.1." Elevation 752.23 feet (229.28 meters).....	37 56 28.64	85 59 22.15	2,301
Muldraugh, center of main line track, 12 feet south of center of railroad crossing; hub.....	37 56 25.49	85 59 29.98	704
Muldraugh, 750 feet west of station, 800 feet west of railroad crossing, south side of road, in line with T road north; iron post stamped "Prim. Trav. Sta. No. 156, 1918. Elev. 721." Elevation 720.978 feet (219.754 meters).....	37 56 22.47	85 59 39.06	789

## From Garnettsville along highways to Stithton.

Primary leveling by E. E. Harris in 1918.

Crittenden crossroads, 1.2 miles west of Tip Top, 75 feet east of road forks, 18 feet south of stone road, in center of grass triangle; iron post stamped "Prim. Trav. Sta. No. 176, 1918. Elev. 734." Elevation 734.076 feet (223.747 meters).....	37 54 44.16	85 59 39.27	2,837
Crittenden crossroads, 0.3 mile southeast of, in west corner at second class road southwest, in hub; copper nail and washer, marked "U. S. T. B. M. 756.4." Elevation 756.55 feet (230.597 meters).....			
Lane south, on north side of road; hub.....	37 54 33.35	85 59 23.08	1,702
Boones crossroads, 0.3 mile northwest of, on southwest edge of road, 120 feet northwest of farmhouse on northeast side of road, in root on north side of 18-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 733.1." Elevation 733.16 feet (223.468 meters).....			
Boones crossroads, 1.3 miles northwest of Stithton, in triangle made by crossroads; iron post stamped "Prim. Trav. Sta. No. 177, 1918. Elev. 699." Elevation 698.710 feet (212.967 meters).....	37 54 15.06	85 58 38.47	4,026
Boones crossroads, 0.3 mile southeast of, on northeast side of road, opposite timber line southwest, in center of top of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 726.4." Elevation 726.52 feet (221.443 meters).....			
South edge of road, 80 feet east of gate, on south side of road; hub.....	37 53 54.22	85 58 07.03	3,285
North side of road, at road north through gate; hub.....	37 53 47.34	85 57 55.42	1,162
Boones crossroads, 0.9 mile southeast of, in south corner at T road southwest, in top of sandstone outcrop; chiseled square. Elevation 721.54 feet (219.926 meters).....			
Northeast side of road, in line with T road southwest; hub.....	37 53 43.95	85 57 52.97	395
Iron post No. 110 (previously described).....	37 53 29.31	85 57 40.13	1,803

Magnetic declination, 1° 43' E.

From post No. 161 west along Webster road to Dixie Highway.

Primary leveling by R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Stithton, about 3.1 miles northeast of, on southeast side of Webster road, in line with Crain road northwest; iron post stamped "Prim. Trav. Sta. No. 161, 1918. Elev. 452." Elevation 451.770 feet (137.700 meters).....	° ' "	° ' "	Feet.
Stithton, 1.2 miles east thence 1.8 miles northeast from, at road forks, about 80 feet north of Mill Creek, on east edge of Webster road, in base of 20-inch sycamore tree; wire nail, tree marked "U. S. T. B. M. 417.0." Elevation 417.04 feet (127.114 meters). Road, 18 feet north of, 30 feet east of dry creek bed, near barn; hub.	37 54 32.00	85 54 23.70	.....
Stithton, 1.2 miles east thence 1.5 miles northeast from, at base of Samuel's Hill, on southeast edge of Webster road, near bottom of big draw, on top of large stone; chiseled square, a tree is marked "U. S. T. B. M. 427.1." Elevation 427.14 feet (130.193 meters).	37 54 21.12	85 54 41.43	1,796
Stithton, 1.2 miles east thence 1.2 miles northeast from, on northwest side of Webster road, near summit of Samuel's Hill, in root of old oak stump; copper nail and washer; a fence post 4 feet east is marked "U. S. B. M. 665.0." Elevation 665.92 feet (202.972 meters).			
Artillery Range Signal No. 20; iron post stamped "Art. Tri. Sta. No. 20, 1918. Elev. 701." Elevation 701.027 feet (213.673 meters).....	37 54 20.26	85 55 11.85	2,440
Stithton, 1.2 miles east thence 0.8 mile northeast, of, on northwest side of Webster road; 600 feet northeast of summit of high ridge, about 1 mile northeast of Dixie Highway; iron post stamped "Prim. Trav. Sta. No. 178, 1918. Elev. 684." Elevation 684.268 feet (208.566 meters).....	37 54 22.46	85 55 18.13	549
Stithton, 1.2 miles east thence 0.7 mile northeast of, northwest side of Webster road, in line with T road southeast, in hub; copper nail and washer; a telephone pole 15 feet west is marked "U. S. T. B. M. 695.1." Elevation 695.19 feet (211.894 meters).	37 54 16.12	85 55 30.30	1,166
Stithton, 1.2 miles east thence 0.5 mile northeast from, on northwest edge of Webster road, in line with T road southeast, top of stake; copper nail and washer; a gate 15 feet west is marked "U. S. T. B. M. 677.9." Elevation 677.96 feet (206.643 meters).			
Northwest side of road, 30 feet east of gate, opposite mail box 91; hub.....	37 54 10.24	85 55 39.08	920
Stithton, 1.25 miles east of, east side of Dixie Highway, in line with Webster road to northeast; iron post stamped "Prim. Trav. Sta. No. 179, 1918. Elev. 663." Elevation 663.531 feet (202.245 meters).....	37 53 55.07	85 56 02.82	2,444
Stithton, 1.1 miles northeast thence 0.5 mile southeast from, 0.2 mile southeast of milepost 16, southwest side of Dixie Highway at lane northeast, in hub; copper nail and washer; a telephone pole 8 feet west is marked "U. S. T. B. M. 683.6." Elevation 683.70 feet (208.392 meters).....	37 54 00.41	85 56 07.71	666
Stithton, 1.1 miles northeast thence 1,000 feet southeast from, on northeast edge of Dixie Highway, top of stone milepost 16; chiseled square; a tree 10 feet east is marked "U. S. T. B. M. 703.4." Elevation 703.43 feet (214.406 meters).			
Iron post No. 107 (previously described).....	37 54 16.54	85 56 27.16	2,256

Magnetic declination, 0° 33' E.

From Indian Hill to Stithton.

Primary leveling by R. B. Steele in 1918.

Indian Hill, 0.6 mile east of summit, near base, 40 feet southeast of pipe line, at edge of clearing, in center of old road; iron post stamped "Prim. Trav. Sta. No. 203, 1918. Elev. 748." Elevation 748.644 feet (228.187 meters).....	37 53 52.20	85 59 49.61	826
Stump, 1 foot north of elevation on; hub.....	37 53 48.16	85 59 35.14	1,230
Stithton, 1.7 miles west of, on north edge of road, at top of ridge; hub; a tree 5 feet north of hub painted "U. S. T. B. M. 723.9." Elevation 724.07 feet (220.697 meters).....	37 53 41.18	85 59 25.04	1,073
Stithton, 1.3 miles west of, 100 feet north of sawmill, at north edge of road, at T road north; iron post stamped "Prim. Trav. Sta. No. 204, 1918. Elev. 629." Elevation 629.357 feet (191.829 meters).....	37 53 24.63	85 59 08.73	2,125
Stithton, 1.0 mile west of, on south side of road, at road fork south; iron spike in root of 15-inch oak tree; tree is marked "U. S. T. B. M. 659.6." Elevation 659.74 feet (201.090 meters).....	37 53 31.53	85 58 46.69	1,899

## From Indian Hill to Stithton—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
Stithton, 0.8 mile west of, on east side of small creek, on south side of road, on top of cement pillar chiseled square; pillar is marked "U. S. T. B. M. 667.3." Elevation 667.43 feet (203.433 meters).	° ' "	° ' "	<i>Feet.</i>
In pasture, 120 feet southeast of farm gate; hub.	37 53 34.05	85 58 19.75	2,174
Stithton, 0.5 mile west of, on south side of T road fork southwest, in top of stone; chiseled square, marked "U. S. T. B. M. 721.5." Elevation 721.54 feet (219.926 meters).	37 53 31.05	85 58 07.83	1,003
Stithton, iron post No. 110 (previously described).	37 53 29.31	85 57 40.13	2,227

Magnetic declination, 1° 29' E.

## From post No. 204 along highway to post No. 177.

Iron post No. 204 (previously described)	37 53 24.63	85 59 08.73	.....
Center of road, 18 feet north of; hub.	37 53 37.49	85 59 07.17	1,307
North wheel track, 15 feet north of center of road north.	37 53 44.38	85 59 05.83	705
Stithton, 1.2 miles northwest thence 0.5 mile southwest of, cross-roads, on west side of Litchfield road, 50 feet southwest of road forks, in root of 36-inch white-oak tree; copper nail and washer; tree marked "U. S. T. B. M. 665.6." Elevation 665.75 feet (202.921 meters).			
T road north; hub.	37 53 54.09	85 58 58.99	1,125
Center of creek, 30 feet north of, 10 feet east of center of road, near stump.	37 53 56.21	85 58 49.68	777
Iron post No. 177 (previously described)	37 54 15.06	85 58 38.47	2,107

Magnetic declination, 1° 42' E.

## From T road south near post No. 123 to post No. 125.

Primary traverse by O. B. Walsh in 1918.

At T road south; hub.	37 58 04.03	85 58 11.25	.....
Tioga station, 0.5 mile west of, 600 feet north of Illinois Central R. R. viaduct, 0.4 mile west of Dixie Highway, north side of road fork, 4 feet south of a gate, in stump; copper nail and washer, marked "U. S. T. B. M. 439.0." Elevation 439.07 feet (133.828 meters).			
Center line of overhead trestle.	37 57 58.45	85 58 16.11	685
Tioga station, 0.5 mile west thence 0.2 mile south from, 40 feet northeast of road forks, on east side of road, in root of 36-inch birch tree; copper nail and washer; tree marked "U. S. T. B. M. 483.8." Elevation 484.08 feet (147.548 meters).			
Road fork, hub, at foot of large beech tree.	37 57 49.08	85 58 24.35	1,154
Twin Cave station, 0.9 mile east thence 0.6 mile north from, on east side of road, at T road southeast, in root of 14-inch hickory tree; copper nail and washer; tree is marked "U. S. T. B. M." Elevation 721.30 feet (219.852 meters).	37 57 41.48	85 58 37.33	1,292
At T road east, 4 feet west of triangle made by roads; hub.	37 57 36.45	85 58 34.77	547
Twin Cave station, 0.9 mile east thence 0.4 mile north of, 50 feet south of T road east, on east side of road, in root of 30-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 735.6." Elevation 735.79 feet (224.269 meters).			
T road east; hub.	37 57 27.95	85 58 33.23	868
Twin Cave station, 0.9 mile east of, on east side of road, at T road west, 8 feet northwest of chestnut tree; iron post stamped "Prim. Trav. Sta. No. 128, 1918. Elev. 775." Elevation 774.896 feet (236.189 meters).	37 57 09.63	85 58 40.64	1,945
Twin Cave station, 0.9 mile east thence 0.2 mile south from, at right angle in road, in base of large oak stump; copper nail and washer; a plank fence 10 feet south is marked "U. S. T. B. M. 761.0." Elevation 761.16 feet (232.002 meters).			
Muldraugh, about 1.0 mile northeast of, 400 feet northeast of T road north, on north side of road, on hill top opposite farm road south; iron post stamped "Prim. Trav. Sta. No. 125, 1918. Elev. 776." Elevation 776.111 feet (236.559 meters).	37 56 47.86	85 58 27.71	2,434

Magnetic declination, 1° 21' E.

## From post No. 106 along Crain road to Webster road.

Primary leveling by R. B. Steele, in 1918; primary traverse by H. S. Senseney in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Iron post No. 106 (previously described).....	37 55 17.29	85 56 40.87	
North side of road, in line with road south, at lane east; hub.....	37 55 18.94	85 56 31.58	764
Artillery Range Signal No. 13; iron post stamped "Art. Tri. Sta. No. 13, 1918. Elev. 768." Elevation 768.043 feet (234.100 meters).	37 55 10.21	85 56 27.70	936
Stithton, 2.3 miles northeast of, along Devore road, thence 0.9 mile northwest along Crain road, 0.4 mile southeast of Dixie Highway, in hub; copper nail and washer; a 6-inch persimmon tree 15 feet west is marked "U. S. T. B. M. 760.7." Elevation 760.79 feet (231.889 meters).			
East side of road, in line with T road northeast at old schoolhouse; hub.....	37 55 04.80	85 55 48.55	3,185
Stithton, 2.3 miles northeast of, along Devore road, thence 0.4 mile northwest along Crain road, on east edge of road, in line with T road east, in hub; wire nail; corner fence post 15 feet east is marked "U. S. T. B. M. 731.0." Elevation 731.07 feet (222.830 meters).			
Stithton, about 2.3 miles northeast of, on northeast side of Crain road, in line with the Devore road southwest; iron post stamped "Prim. Trav. Sta. No. 159, 1918 Elev. 726." Elevation 726.373 feet (221.399 meters).	37 54 56.59	85 55 29.61	1,730
Stithton, 2.3 miles northeast of, along Devore road, thence 0.3 mile southeast along Crain road, on northeast side of road, at T road north, in hub; wire nail; a 6-inch oak tree 6 feet northeast is marked "U. S. T. B. M. 745.7." Elevation 745.81 feet (227.323 meters).			
East side of road, top of hill, front of log cabin; hub.....	37 54 52.85	85 55 05.04	2,006
Stithton, 2.3 miles northeast of, along Devore road, thence 0.6 mile southeast along Crain road, at top of Samuel's Hill, on southwest edge of road, in hub; copper nail and washer; a 10-inch oak tree 14 feet west is marked "U. S. T. B. M. 701.8." Elevation 701.89 feet (213.936 meters).			
Southwest side of road, top of hill, at old road south; hub.....	37 54 41.22	85 54 48.74	1,759
Stithton, 2.3 miles northeast of, along Devore road, thence 0.8 mile southeast, along Crain road, in line with T road north, center of road, top of large stone; chiseled square; a 14-inch maple tree 50 feet northwest is marked "U. S. T. B. M. 612.5." Elevation 612.61 feet (186.724 meters).			
Iron post No. 161 (previously described).....	37 54 32.00	85 54 23.70	2,213

## Northeast along Webster road to Mill Creek, thence northwest to post No. 133.

Primary leveling by E. E. Harris in 1918.

Stithton, 3.3 miles northeast of, on southwest side of Webster road, on southwest side of wooden bridge over drain; copper nail and washer, marked "U. S. T. B. M. 441.2." Elevation 440.98 feet (134.411 meters).			
Stithton, 3.6 miles northeast of, on southeast side of Webster road, in center of southeast side of bridge over Bundel Creek; copper nail and washer, marked "U. S. T. B. M. 420.5." Elevation 420.28 feet (128.101 meters).			
Mill Creek, northwest side of road, 40 feet north of bridge; hub....	37 54 55.05	85 54 06.11	2,724
Stithton, 4.0 miles northeast of, on Webster road, at west corner of road forks; iron post stamped "Prim. Trav. Sta. No. 199, 1918. Elev. 420." Elevation 419.677 feet (127.917 meters).	37 55 07.06	85 53 47.09	1,949
Hub with flag.....	37 55 09.76	85 54 03.55	1,346
Stithton, 4.0 miles northeast of, on Webster road, thence 0.7 mile northwest, on southwest side of road, near bend of Bundel Creek, in root on north side of 15-inch hickory tree; copper nail and washer, marked "U. S. T. B. M. 413.5." Elevation 413.22 feet (125.950 meters).			
Hub with flag.....	37 55 20.40	85 54 35.23	2,757
Hub with flag near southwest corner of orchard.....	37 55 27.90	85 54 50.04	1,408
Stithton, 4.0 miles northeast of, on Webster road, thence 1.1 miles northwest along Mill Creek road, northwest side of drain, 30 feet northeast of road, in root on north side of 30-inch elm tree; copper nail and washer, marked "U. S. T. B. M. 449.4." Elevation 449.17 feet (136.907 meters).			
Stithton, 4.0 miles northeast of, along Webster road, thence 1.2 miles northwest on road up Mill Creek, at southwest corner of road forks west, 15 feet southwest of corner fence post; iron post stamped "Prim. Trav. Sta. No. 202, 1918. Elev. 447." Elevation 447.224 feet (136.314 meters).	37 55 39.76	85 54 46.67	1,231
Stithton, 3.2 miles northeast of, on Dixie highway, thence 1.8 miles east on Wilder road, 200 feet west of road forks, 30 feet east of creek, 400 feet west of house; iron post stamped "Prim. Trav. Sta. No. 153, 1918. Elev. 418." Elevation 422.432 feet (128.758 meters).	37 55 51.53	85 55 12.78	2,408



## From post No. 142 along highways to post No. 157.

Primary leveling by R. B. Steele in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Tip Top, 0.5 mile southwest of, at southeast side of road, at T road north, 600 feet west of Tip Top schoolhouse; iron post stamped "Prim. Trav. Sta. No. 142, 1918. Elev. 762." Elevation 762.513 feet (232.414 meters).....	° ' "	° ' "	Feet.
Tip Top School, 0.2 mile northwest of, in center of Dickson road, in hub (t. b. m.); copper nail and washer; a fence post 10 feet east is marked "U. S. 766.3." Elevation 766.44 feet (233.610 meters).	37 55 00.42	85 59 01.84	.....
Tip Top School, 0.5 mile northwest of, 90 feet west of an old log cabin on top of high ridge, in center of Dickson road, in root of 16-inch white-oak tree; copper nail and washer, marked "U. S. T. B. M. 767.2." Elevation 767.39 feet (233.901 meters.)	37 55 06.32	85 59 07.88	768
West side of the road, opposite small house; hub.....	37 55 19.58	85 59 22.50	1,780
Tip Top School, 0.7 mile northwest of, at top of short ridge, on east edge of Dickson road, at dim crossroads, in stake; copper nail and washer; a 10-inch oak tree 15 feet west is marked "U. S. T. B. M. 735.4." Elevation 735.56 feet (224.199 meters).			
Tip Top School, 0.7 mile northwest of, on Dickson road, at T road east; iron post stamped "Prim. Trav. Sta. No. 149, 1918" (no elevation determined).....	37 55 29.92	85 59 33.41	1,363
Muldraugh, 0.7 mile southwest of, thence 0.6 mile southeast, on west edge of Dickson road, near top of ridge, at T road west, in hub; copper nail and washer; a gate 10 feet west is marked "U. S. T. B. M. 725.6." Elevation 725.78 feet (221.218 meters).	37 55 40.24	85 59 44.55	1,373
T. B. M. on bridge.....			
Muldraugh, 0.7 mile southwest of, thence 0.3 mile southeast, in center of Dickson road, in line with T road entrance to Proctor farm, on hub; copper nail and washer; a brick gate post 15 feet west is marked "U. S. T. B. M. 719.3." Elevation 719.41 feet (219.277 meters).	37 56 02.80	85 00 09.60	3,039
Iron post No. 157 (previously described).....			

Magnetic declination, 1° 28' E.

Muldraugh, 0.3 mile southwest of, on northwest side of road, in bottom of drain, in top of hub; copper nail and washer; a 4-inch locust tree, 2 feet west, is marked "U. S. T. B. M. 716.6." Elevation 716.77 feet (218.472 meters).....

## From post No. 199 along Webster road to Salt River.

Primary leveling by E. E. Harris in 1918.

Iron post No. 199 (previously described).....	37 55 07.06	85 53 47.09	.....
Stithton, 4.2 miles northeast of, on northwest side of Webster road, 40 feet west of forks of road, 70 feet northwest of store, in hub; copper nail and washer, marked "U. S. T. B. M. 437.5." Elevation 437.22 feet (133.265 meters).	37 55 11.58	85 53 34.49	1,107
Store, 18 feet north of, east side of road, 4 feet west of fence; hub.....	37 55 22.49	85 53 30.18	1,158
West side of road, at road forks, near top of hill; hub.....			
Stithton, 4.5 miles northeast of, on northwest side of Webster road, on south side of lane, 30 feet from gate, in hub; copper nail and washer, marked "U. S. T. B. M. 502.1." Elevation 501.89 feet (152.976 meters).			
Stithton, 5.0 miles northeast of, on Webster road, at east corner of road forks southwest; iron post stamped "Prim. Trav. Sta. No. 198, 1918. Elev. 443." Elevation 442.778 feet (134.959 meters)...	37 55 47.81	85 53 06.52	3,185
West side of road, 80 feet south of road forks; hub.....	37 55 52.38	85 53 06.67	400
Stithton, 5.3 miles northeast of, on northwest side of Webster road, 30 feet northeast of gate to farmhouse, on top of sandstone ledge; chiseled square, marked "U. S. T. B. M. 435.4." Elevation 435.13 feet (132.628 meters).			
North side of road, 3 feet west of small creek; hub.....	37 56 08.68	85 52 54.86	1,901
Stithton, 5.1 miles northeast of, on northwest side of Webster road, 120 feet northeast of farmhouse, in hub; copper nail and washer, marked "U. S. T. B. M. 450.0." Elevation 449.70 feet (137.068 meters).			
West side of road, 4 feet north of small drain; hub.....	37 56 15.95	85 52 42.58	1,227
Stithton, 6.0 miles northeast of, on northwest side of Webster road, 70 feet southwest of farmhouse in root on east side of 36-inch hackberry tree; copper nail and washer, marked "U. S. T. B. M. 482.5." Elevation 482.30 feet (147.005 meters).			
Stithton, 6.3 miles northeast of, 30 feet northwest of road, 25 feet southwest of gate in front of A. L. Davis's residence, 6 feet south of fence; iron post stamped "Prim. Trav. Sta. No. 197, 1918. Elev. 450." Elevation 450.073 feet (137.182 meters).....	37 56 41.49	85 52 35.52	2,644

From post No. 199 along Webster road to Salt River—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
Stithton, 6.3 miles northeast of, thence 0.2 mile southeast, on north side of Webster road, 50 feet east of wire fence south of Salt Run, in root on west side of 15-inch walnut tree; copper nail and washer, marked "U. S. T. B. M. 442.9." Elevation 442.71 feet (134.938 meters).			
South side of road, 150 feet east of residence of W. P. Wise; hub.	° ' "	° ' "	<i>Feet.</i>
Stithton, 6.3 miles northeast of, thence 0.6 mile southeast, on north side of Webster road, in bed of drain from south, on sandstone boulder; chiseled square, marked "U. S. T. B. M. 457.4." Elevation 457.18 feet (139.349 meters).	37 56 30.18	85 51 53.31	3,571
Stithton, 6.3 miles northeast of, thence 1.2 miles southeast, on south side of Webster road, at old road north to Salt River; iron post stamped "Prim. Trav. Sta. No. 196, 1918. Elev. 434." Elevation 433.708 feet (132.195 meters).	37 56 14.56	85 51 25.94	2,705

Magnetic declination, 0° 42' E.

From post No. 154 east and south to post No. 201.

Primary traverse by O. B. Walsh in 1918; primary leveling by E. E. Harris in 1918.

Harboldt School, 0.8 mile east of, on south side of Guthrie Ridge, north side of road, in line with T lane south; iron post stamped "Prim. Trav. Sta. No. 154, 1918. Elev. 786." Elevation 786.599 feet (239.756 meters).	37 56 46.40	85 55 15.41	.....
Dead tree, 10 feet northwest of, tree with red and white target.	37 56 49.58	85 55 07.90	684
Artillery Range Signal No. 9; iron post stamped "Art. Tri. Sta. No. 9, 1918. Elev. 819." Elevation 818.316 feet (249.423 meters).	37 56 47.11	85 55 04.33	380
Center of old road, near target on hillside facing north; hub.	37 56 38.53	85 54 41.99	1,989
Artillery Range Signal No. 10; iron post stamped "Art. Tri. Sta. No. 10, 1918. Elev. 723." Elevation 722.295 feet (220.156 meters).	37 56 36.25	85 54 37.04	458
Walnut tree, 10 feet north of, 90 feet east of barn, tree blazed and marked "U. S."; hub.	37 56 44.05	85 54 23.47	1,345
Artillery Range Signal No. 10, 0.4 mile northeast of, 60 feet south of barn, on south side of canyon, 5 feet west of p. t. hub, top of rock outcrop; chiseled square, marked "U. S. T. B. M. 650". Elevation 649.64 feet (198.01 meters).			
West bank of Salt River near fallen willow tree, 80 feet south of ravine; hub.	37 56 40.09	85 54 16.40	693
Artillery Range Signal, No. 10, 0.4 mile northeast of, thence 0.4 mile south, on southwest side of Salt River, on south side of Bundel Creek at its mouth, in hub; copper nail and washer, marked "U. S. T. B. M. 377.2," water "373.7." Elevation 376.86 feet (114.867 meters).			
Near tree blazed "U. S." on south bank of Mill Creek and west bank of Salt River; hub.	37 56 29.21	85 54 18.05	1,107
Stithton, 0.5 mile northeast of, along Webster road, thence 1.3 miles west, in field, about 20 feet northwest of road up Mill Creek, 100 feet east of Bundel Creek; iron post stamped "Prim. Trav. Sta. No. 201, 1918. Elev. 417." Elevation 416.662 feet (126.999 meters).	37 56 01.30	85 54 23.19	2,850

Magnetic declination, 0° 31' E.

From West Point southeast along river road to post No. 113.

Primary traverse by E. C. Bebb in 1918; primary leveling by E. E. Harris in 1918.

On Illinois Central R. R.; hub.	37 59 46.27	85 56 56.63	.....
West Point, in front of Illinois Central R. R. station; top of rail. Elevation 442.0 feet (134.7 meters).			
West Point, in front of Louisville, Henderson & St. Louis R. R. station; top of rail. Elevation 440.9 feet (134.4 meters).			
West Point, at crossroads, 60 feet northwest of Louisville, Henderson & St. Louis R. R. depot; hub.	37 59 39.34	85 56 49.73	892
West Point, center of road, at T road north.	37 59 45.79	85 56 29.98	1,709
West Point, 0.5 mile southeast of, 10 feet southwest of west end of trestle approach to Louisville, Henderson & St. Louis R. R. branch over Salt River, at overhead crossing; iron post stamped "Prim. Trav. Sta. No. 115, 1918. Elev. 445." Elevation 445.070 feet (135.657 meters).	37 59 45.93	85 56 12.92	1,365
West Point, 0.9 mile southeast of, on northeast edge of road along southwest side of Salt River, in top of large sandstone boulder; chiseled square, marked "U. S. T. B. M. 433.0." Elevation 432.98 feet (131.973 meters).			

## From West Point southeast along river road to post No. 113—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
East side of road, 67 feet east of road leading to house on north side; hub.....	37 59 21.72	85 55 40.93	<i>Feet.</i> 3,543
West Point, 1.3 miles southeast of, on northeast edge of road, on southeast edge of road northeast, in root on south side of 12-inch walnut tree; copper nail and washer, marked "U. S. T. B. M. 462.6." Elevation 462.59 feet (140.998 meters).			
Bridge.....	37 59 18.02	85 55 35.94	548
Road northwest to house; hub.....	37 59 14.77	85 55 24.35	984
West Point, 1.9 miles southeast of, on northeast side of road, on east side of lane north, in hub; copper nail and washer, marked "U. S. T. B. M. 462.5." Elevation 462.58 feet (140.995 meters).	37 59 13.00	85 55 10.57	1,117
West Point, 1.9 miles southeast of, north side of road, opposite Corey road, at T road southwest; iron post stamped "Prim. Trav. Sta. No. 116, 1918. Elev. 471." Elevation 471.117 feet (143.597 meters).....	37 59 11.35	85 55 06.42	372
West Point, 1.5 miles south by 0.6 mile east of Louisville, Henderson & St. Louis R. R. station, at southeast corner of T road south, Corey road; iron post stamped "Prim. Trav. Sta. No. 117, 1918. Elevation 668.976 feet (203.904 meters).....	37 58 44.85	85 55 37.30	3,647
West Point, 1.5 miles south of Louisville, Henderson & St. Louis R. R. station, on east side of Hale road, in center of triangle made by T road east to Corey road; iron post stamped "Prim. Trav. Sta. No. 113, 1918." Elev. 684. Elevation 684.191 feet (208.542 meters).....	37 58 46.48	85 56 09.84	2,611

## From West Point south along Illinois Central R. R. to post No. 101.

East rail of Illinois Central R. R., at point of switch south of switch tower.....	37 59 29.95	85 57 00.83	-----
East rail at road crossing.....	37 59 22.96	85 57 02.39	718
Center of track at road crossing.....	37 59 04.00	85 57 06.61	1,947
West Point, 0.15 mile southwest of, thence 0.5 mile south on east side of Illinois Central R. R. track, in northeast corner of lane crossing, in top of concrete culvert; chiseled square, marked "U. S. T. B. M. 442.7." Elevation 442.71 feet (134.938 meters).			
West rail, at north end of 385-foot trestle.....	37 58 45.28	85 57 06.08	1,893
West Point, 0.15 mile southwest of, thence 0.8 mile south, in center of west edge of crossroad plank; copper nail and washer, marked "U. S. T. B. M. 454.4." Elevation 454.46 feet (138.519 meters).			
On bank, west of semaphore; hub.....	37 58 37.29	85 57 05.94	808
West Point, 1.3 miles south of, about 1,000 feet west of Illinois Central R. R., 150 feet east of large beech tree, on east and west fence line; iron post stamped "Prim. Trav. Sta. No. 124, 1918. Elev. 453.134 feet (138.116 meters).....	37 58 46.18	85 57 18.57	1,353
West Point, 0.15 mile southeast thence 1.5 miles south of, in center of east guard at trestle; iron bolt, marked "U. S. T. B. M. 484.9." Elev. 484.90 feet (147.798 meters).			
On south side of road; hub.....	37 58 26.77	85 57 19.46	1,965
Iron post No. 101 (previously described).....	37 58 06.96	85 57 38.95	2,540

Magnetic declination, 2° 17' E.

## From post No. 104 along Tip Top road to post No. 176.

Primary traverse by O. B. Walsh in 1918; primary leveling by E. E. Harris in 1918.

Iron post No. 104 (previously described).....	37 56 23.45	85 56 59.77	-----
Tip Top, 1.2 miles northeast of, 0.7 mile west of Dixie Highway, on north side of road, on west edge of lane to farm house, in root on south side of large oak tree; copper nail and washer, marked "U. S. T. B. M. 759.4." Elevation 759.45 feet (231.481 meters).			
T. b. m. on north end of small bridge.....	37 56 06.87	85 57 32.46	3,110
T road north, opposite t. b. m.; hub.....	37 56 03.89	85 57 36.31	430
Tip Top, 0.9 mile northeast of, on southeast side of road opposite farm gate, in hub; copper nail and washer, marked "U. S. T. B. M. 760.4." Elevation 760.45 feet (231.785 meters).....	37 55 51.90	85 57 50.22	1,648
On mound in road, near blazed telegraph pole; hub.....	37 55 41.91	85 57 58.01	1,187
Tip Top, about 0.5 mile northeast of, in north corner of large grass triangle at road forks, 16 feet southeast of center of Tip Top road; iron post stamped "Prim. Trav. Sta. No. 140, 1918. Elev. 763." Elevation 763.218 feet (232.629 meters).....	37 55 35.20	85 57 58.88	682
Opposite farm road south.....	37 55 23.85	85 58 16.01	1,789
Tip Top, 0.2 mile northeast of, on northwest edge of road, in center of northwest end of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 754.1." Elevation 754.19 feet (229.878 meters).			

## From post No. 104 along Tip Top road to post No. 176—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
West rail of main line of Illinois Central R. R., at center of road crossing, 400 feet south of Tip Top station.....	° ' "	° ' "	<i>Feet.</i>
Tip Top, 300 feet northwest of station, at right angle turn in road; iron post stamped "Prim. Trav. Sta. No. 141, 1918. Elev. 782." Elevation 781.640 feet (238.244 meters).....	37 55 13.81	85 58 30.63	1,550
Tip Top, 0.3 mile southwest of, 300 feet northeast of Tip Top School, on southeast side of road, south corner at private road southeast, in west corner of concrete wall; chiseled square, marked "U. S. T. B. M. 766.1." Elevation 766.87 feet (233.742 meters).....	37 55 18.77	85 58 36.83	706
South side of road, opposite schoolhouse; hub.....	37 55 05.40	85 58 54.72	1,910
Iron post No. 142 (previously described).....	37 55 00.42	85 59 01.84	761
North side of road, at turn; hub.....	37 54 52.13	85 59 16.30	1,430
Iron post No. 176 (previously described).....	37 54 44.16	85 59 39.37	2,017

Magnetic declination, 1° 06' E.

Post No. 108 (previously described).....	37 53 52.95	85 57 02.00	.....
Stithton, 0.4 mile northeast thence 0.3 mile north of, on west side of road, opposite gate to field, hub; copper nail and washer, marked "U. S. T. B. M. 731.8." Elevation 731.87 feet (223.074 meters).....	37 54 06.68	85 57 06.89	1,443
East side of road; hub.....	37 54 13.02	85 57 08.82	660
Stithton, 0.4 mile northeast thence 0.5 mile north of, on west side of road, in line with south edge of T lane east along timber line on top of drain pipe; chiseled square, marked "U. S. T. B. M. 724.7." Elevation 724.81 feet (220.923 meters).....	37 54 24.58	85 57 13.54	1,229
Farm road west; hub.....	37 54 41.47	85 57 19.08	1,765
Stithton, about 1.3 miles north of, on east side of road, at south edge of farm road gate; iron post stamped "Prim. Trav. Sta. No. 138, 1918. Elev. 742.6." Elevation 742.619 feet (226.351 meters).....	37 54 59.91	85 57 32.84	2,166
Stithton, 1.5 miles north of, on southwest edge of road, 100 feet north of angle in road, in center of west end of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 750.4." Elevation 750.43 feet (228.731 meters).....	37 55 05.19	85 57 37.28	642
Center of small bridge.....	37 55 05.15	85 57 59.10	1,749
Stithton, 1.7 miles north of, on west edge of road, in center of top of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 748.7." Elevation 748.77 feet (228.226 meters).....	37 55 35.20	85 57 58.88	3,040
Road crossing, 16 feet south of t. b. m.; hub.....			
Tip Top, about 0.5 mile southeast of, in large grass triangle, 8 feet northwest of tree; iron post stamped "Prim. Trav. Sta. No. 139, 1918. Elev. 763." Elevation 762.904 feet (232.534 meters).....			
Post No. 140 (previously described).....			

Magnetic declination, 0° 50' E.

## From post No. 100 along Louisville, Henderson &amp; St. Louis R. R. and highways to post No. 101.

Primary traverse by Capt. E. C. Bebb in 1918.

Post No. 100 (previously described).....	37 59 21.08	85 57 41.24	.....
T road north through gate; hub.....	37 59 16.48	85 58 16.00	2,822
Howard station, 0.6 mile west of, 30 feet east of milepost 24, in center of east horizontal support to target switch; copper nail and washer, marked "U. S. T. B. M. 438.2." Elevation 438.23 feet (133.573 meters).....			
Howard, 1 mile west of, 10 feet south of railroad crossing, on west side of road; iron post stamped "Prim. Trav. Sta. No. 120, 1918. Elev. 437." Elevation 436.983 feet (133.193 meters).....	37 59 12.20	85 58 51.85	2,902
Howard, 1.4 miles west of, at farm-road crossing, in west end of crossroad plank, on inner side of south rail; copper nail and washer, marked "U. S. T. B. M. 437.4." Elevation 437.40 feet (133.320 meters).....	37 59 10.28	85 59 12.52	1,667
South rail at farm-road crossing.....			
Howard, 1.7 miles west of, 320 feet west of milepost 25, at road crossing, 12 feet north of track; iron post stamped "Prim. Trav. Sta. No. 121, 1918." Elev. 437. Elevation 436.578 feet (133.069 meters).....	37 59 11.79	85 59 33.49	1,687
T road north; hub.....	37 59 00.12	85 59 22.75	1,459
Howard, 1.7 miles west thence 0.3 mile south of, at forks of road, on south edge of road, in line with road north, in hub; copper nail and washer, marked "U. S. T. B. M. 425.7." Elevation 425.74 feet (129.766 meters).....			
Farm road west.....	37 58 50.42	85 59 14.18	1,196

From post No. 100 along Louisville, Henderson & St. Louis R. R. and highway to post No. 101—  
Continued.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Hub.....	37 58 42.80	85 59 07.17	953
Tioga, 1.4 miles northwest of, at base of high bluff, on southwest side of road running southeast, in line with road east; iron post stamped "Prim. Trav. Sta. No. 122, 1918. Elev. 409." Elevation 409.486 feet (124.811 meters).....	37 58 25.66	85 59 23.12	2,153
T road north, at gate; hub.....	37 58 18.22	85 59 06.73	1,513
Tioga, 1.1 miles northwest of, on south edge of road, near gate post, 10 feet west of T lane north, in hub; copper nail and washer, marked "448.9." Elevation 448.96 feet (136.843 meters).			
Tioga, 0.7 mile northwest of, on south edge of road, at fence post, in hub; copper nail and washer, marked "450.2." Elevation 450.20 feet (137.221 meters).			
T road south, hub.....	37 58 04.03	85 58 11.25	.....
Tioga, 0.2 mile northwest of, on north edge of road, 3 feet east of gate post, in hub; copper nail and washer, marked "439.0." Elevation 439.07 feet (133.829 meters).			
Tioga, about 700 feet north of, on north side of main road in line with T road south; iron post stamped "Prim. Trav. Sta. No. 123, 1918. Elev. 465." Elevation 464.888 feet (141.698 meters)....	37 58 03.62	85 57 59.60	934
Tioga, about 0.2 mile east of, on north side of road, in line with road southwest, on sandstone boulder; chiseled square, marked "U. S. T. B. M. 473.2." Elevation 473.27 feet (144.253 meters).			
Iron post No. 101 (previously described).....	37 58 06.96	85 57 38.95	1,687

Magnetic declination, 1° 24' E.

From post No. 140 along highways to post No. 151.

Primary traverse by O. B. Walsh in 1918; primary leveling by R. B. Steele in 1918.

Post No. 140 (previously described).....	37 55 35.20	85 57 58.88	.....
Tip Top, 0.5 mile northeast of, on northwest side of road, at northeast end of gate, near top of hill, in hub; copper nail and washer; a gate post 2 feet west is marked "U. S. T. B. M. 779.1." Elevation 779.32 feet (237.538 meters).			
Tip Top, 1.0 mile northeast of, on west edge of road, in line with T road east, at northwest corner of an old orchard, top of stake; copper nail and washer; a gate post 15 feet south is marked "U. S. T. B. M. 762.5." Elevation 762.61 feet (232.444 meters).			
In field, 30 feet from edge of woods, witness stake, marked "U. S."; in hub.....	37 55 45.64	85 58 16.40	1,757
T. b. m., center of road, at red farm gate; hub.....	37 55 59.43	85 58 18.63	1,407
Kendall's farmhouse, 10 feet south of milk house; hub.....	37 56 08.84	85 58 08.33	1,260
Muldraugh, 1.5 miles northeast of, thence 0.4 mile south, on east side of road at forks east, in hub; copper nail and washer; a 14-inch oak tree 15 feet west is marked "U. S. T. B. M. 767.5." Elevation 767.65 feet (233.980 meters).			
Road forks; t. b. m., hub.....	37 56 10.53	85 58 15.28	582
South side of road, 27 feet east of t. b. m., at farm gate; hub.....	37 56 17.63	85 58 15.06	720
Post No. 151 (previously described).....	37 56 26.39	85 58 15.95	889

Magnetic declination, 1° 00' E.

From post No. 117 south along Corey road to post No. 154.

Primary leveling by E. E. Harris; primary traverse by Capt. E. C. Bebb in 1918.

Post No. 117 (previously described).....	37 58 44.85	85 55 37.30	.....
Opposite T road east; hub.....	37 58 36.41	85 55 33.38	910
Schoolhouse, 25 feet south of, opposite side of road; hub.....	37 58 24.78	85 55 27.09	1,279
Liberty Hill School, 100 feet south of, on west edge of Corey road, in roof on east side of 20-inch locust tree; copper nail and washer, marked, "U. S. B. M. 720.3." Elevation 720.42 feet (219.584 meters).			

Primary traverse by O. B. Walsh in 1918.

Road forks; hub.....	37 58 14.36	85 55 16.75	1,340
Liberty Hill School, 0.24 mile south of, on Corey road, in center of grass triangle, in hub; copper nail and washer, marked "U. S. B. M. 686.1." Elevation, 686.22 feet (209.160 meters).			
Farm road west.....	37 58 06.57	85 55 19.73	824

From post No. 117 south along Corey road to post No. 154.—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
Liberty Hill School, 0.5 mile south of, on Corey road, at southeast corner of T road south; iron post stamped "Prim. Trav. Sta. No. 127, 1918. Elev. 740." Elevation 740.225 feet (225.621 meters).....	° ' "	° ' "	<i>Fect.</i>
Liberty Hill School, 0.8 miles south of, in south end of grass triangle, in hub; copper nail and washer, marked "U. S. T. B. M. 736.2." Elevation 736.34 feet (224.437 meters).....	37 58 01.49	85 55 24.14	624
T road west; hub.....	37 57 47.00	85 55 20.56	1,493
Farm-road crossing.....	37 57 30.67	85 55 23.53	1,669
Liberty Hill School, 1.2 miles south of, at southwest corner of cross lane, in root on north side of 15-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 780.0." Elevation 780.12 feet (237.781 meters).....	37 57 12.86	85 55 24.01	1,802
T road east; in hub.....			
Liberty Hill School, 1.5 miles south of, at road crossing, in center of grass triangle, in hub; copper nail and washer, marked "U. S. T. B. M. 756.8." Elevation 756.92 feet (230.709 meters).....			
Artillery Range Signal No. 1; iron post stamped "Art. Tri. Sta. No. 1, 1918. Elev. 766." Elevation 765.860 feet (233.435 meters).....	37 57 11.70	85 55 20.17	328
Post No. 154 (previously described).....	37 56 46.40	85 55 15.41	2,587

Magnetic declination, 1° 05' E.

From post No. 116 south along highways to Artillery Range Signal No. 1.

Primary traverse by Capt. E. C. Bebb in 1918.

Post No. 116 (previously described).....	37 59 11.35	85 55 06.42	.....
West Point, 2.2 miles southeast of, in northeast corner of lane north, in hub; copper nail and washer, marked "U. S. T. B. M. 468.2." Elevation 468.22 feet (142.714 meters).....			
North edge of road, 6 feet east of center of farm road north.....	37 59 10.09	85 54 49.09	1,392
North bank of road, 55 feet east of T road south; hub.....	37 59 08.68	85 54 39.51	779
Center of main road, 18 feet west of, 14 feet east of center of second-class T road west.....	37 58 57.98	85 54 42.14	1,102
East edge of main road, at center of T road east.....	37 58 57.03	85 54 36.24	482
West Point, 2.4 miles southeast of, thence 0.9 mile south, opposite Y road fork, at road southwest, in hub; copper nail and washer, marked "U. S. T. B. M. 462.0." Elevation 462.05 feet (140.833 meters).....			
T road west, 75 feet north of; hub.....	37 58 36.86	85 54 46.59	2,202
Gate to frame house, 110 feet south of, on east side of road; hub.....	37 58 27.31	85 54 47.57	969
West Point, 2.4 miles southeast of, thence 1.4 miles south, on road up the westside of Salt River, at northwest corner of road forks west; iron post stamped "Prim. Trav. Sta. No. 136, 1918. Elev. 462." Elevation 462.005 feet (140.820 meters).....	37 58 10.86	85 54 43.51	1,695
West side of road; hub.....	37 57 59.63	85 54 43.61	1,136

Primary traverse by O. B. Walsh in 1918.

East side of road, 180 feet south of farmhouse; hub.....	37 57 43.20	85 54 36.59	1,754
South end of small bridge, 2 feet east of center of road; nail.....	37 57 34.65	85 54 38.75	882
West Point, 2.4 miles southeast of, thence 2.0 miles south, 30 feet east of center of road, 60 feet west of barn, in root on south side of 8-inch hickory tree; copper nail and washer, marked "U. S. T. B. M. 455.4." Elevation 455.46 feet (138.824 meters).....			
West Point, 2.4 miles southeast of, thence 2.4 miles south, on west side of road, 200 feet south of farm house, at northeast corner of barn, in hub; copper nail and washer, marked "U. S. T. B. M. 450.7." Elevation 450.76 feet (137.392 meters).....			
Artillery Range Signal No. 3; iron post stamped "Art. Tri. Sta. No. 3, 1918. Elev. 636." Elevation 635.923 feet (193.830 meters).....	37 57 20.46	85 54 32.11	1,531
West Point, 1.5 miles south of, thence 0.8 mile east, at Artillery Range Signal No. 3, in hub; copper nail and washer, marked "635.6." Elevation 635.60 feet (193.731 meters).....			
South side of road, near curve, in hub.....	37 57 15.15	85 54 57.10	2,073
North side of road, near blazed beech tree, in hub.....	37 57 14.13	85 55 11.81	1,183
Artillery Range Signal No. 1 (described elsewhere).....	37 57 11.70	85 55 20.17	714

Magnetic declination, 0° 43' E.

## From post No. 165 along highways to post No. 172.

Primary traverse by H. S. Senseney in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Post No. 165 (previously described).....	38 00 56.71	85 54 00.11	.....
Stites, 0.3 miles southeast of, thence 0.4 miles south, in center of grass triangle, in hub; copper nail and washer, marked "U. S. T. B. M. 466.0." Elevation 466.03 feet (142.046 meters).			
Road forks, northeast corner of, 20 feet north of birch tree; hub....	38 00 32.90	85 54 00.17	2,408
Stites, 0.3 miles southeast of, thence 0.8 miles south, in elbow of road, on west side, in root on east side of 24-inch beech tree; copper nail and washer, marked "U. S. T. B. M. 440.9." Elevation 440.92 feet (134.392 meters).			
Small white house, 30 feet south of gate to, west side of road; hub...	38 00 14.25	85 54 14.11	2,191
Road, east side of, 12 feet south of small wooden culvert; hub.....	38 00 01.36	85 53 59.34	1,760
Stites, 0.3 mile southeast of, thence 1 mile south, on west side of road, in bend, on top of sandstone boulder; chiseled square, marked "U. S. T. B. M. 599.2." Elevation 599.16 feet (182.625 meters).			
East side of road, 35 feet south of lane east through gate; hub.....	37 59 51.38	85 53 52.00	1,168
Stites station, 0.3 mile southeast of, thence 1.6 miles south, on south edge of Highland Ridge road, at south side of T road north; iron post stamped "Prim. Trav. Sta. No. 173, 1918. Elev. 743." Elevation 743.105 feet (226.499 meters).....	37 59 44.09	85 53 52.28	737
Stites, 1.4 miles south of, thence 0.3 mile west along Highland Ridge road, in forks at road northwest, in hub; copper nail and washer, marked "U. S. T. B. M. 778.4." Elevation 778.44 feet (237.269 meters).			
North side of road, at road forks; hub.....	37 59 51.10	85 54 12.75	1,785
Stites, 1.9 miles south of, thence 0.6 mile west along Highland Ridge road, on south side, in top of wooden culvert, point marked "U. S. T. B. M. 668.8." Elevation 668.85 feet (203.866 meters).			
North side of road, 15 feet west of road forks; hub.....	38 00 08.08	85 54 36.97	2,287
Katharyn, 0.6 mile southeast of, thence 1 mile northeast along Highland Ridge road, on north side, in line with farm road south, in root on east side of 8-inch locust tree; copper nail and washer, marked "U. S. T. B. M. 744.6." Elevation 744.65 feet (226.970 meters).			
West side of road, at road forks; hub.....	38 00 05.05	85 54 47.24	846
At center of road forks; hub.....	38 00 03.87	85 54 55.97	708
Katharyn, 0.6 mile southeast of, thence 0.7 mile northeast along Highland Ridge road, in center of grass triangle, in hub; copper nail and washer, marked "U. S. T. B. M. 712.0." Elevation 711.99 feet (217.615 meters).			
South side of road, at road forks; hub.....	37 59 46.36	85 55 20.76	2,658
Katharyn, 0.6 mile southeast of, post No. 172 (previously described).....	37 59 41.53	85 55 27.58	733

Magnetic declination, 0° 34' E.

## From post No. 186 northeast through fields and woods to the Ridge road.

Post No. 186 (previously described).....	37 58 08.36	85 52 43.37	.....
Hub with flag.....	37 58 24.77	85 52 34.05	1,820
Creek, at north side of; hub with flag.....	37 58 33.55	85 52 43.27	1,156
Chapel Ridge School, 1.4 miles north of, 180 feet east of P. C. Arnold's barn, on east side of old road leading to Ridge road, in line with road up mountain side; iron post stamped "Prim. Trav. Sta. No. 195, 1918. Elev. 477." Elevation 477.02 feet (145.396 meters).....	37 58 39.84	85 52 38.62	737
South side of road, at forks of old road and trail; hub.....	37 58 57.93	85 52 20.79	2,321
West side of road, at T road west; hub.....	37 59 06.41	85 52 12.77	1,072

Magnetic declination, 0° 19' E.

## From point on Dixie Highway about 3.5 miles south of West Point east and north via Hale road to West Point.

Primary traverse by Capt. E. C. Bebb in 1918; primary leveling by E. E. Harris in 1918.

Hale road, on west side of Dixie Highway opposite; cross on rock..	37 56 50.69	85 57 01.90	.....
Center line of small bridge.....	37 56 54.25	85 56 47.91	1,178

From post on Dixie Highway about 3.5 miles south of West Point east and north via Hale road to West Point—Continued.

Station.	Latitude.	Longitude.	Distance between stations.
West Point, 4.3 miles south of, on Dixie Highway, thence 0.2 mile east on Hale road, 0.1 mile east of Pleasant View Church, at southeast corner of wooden bridge, in top of large sandstone boulder; cross in chiseled square, marked "U. S. T. B. M. 688.6." Elevation 688.66 feet (209.904 meters).	" " "	" " "	<i>Fect.</i>
Point where stream running along road turns southwest.....	37 56 56.34	85 56 36.29	956
Pleasant View Church, 0.5 mile east of, about 0.75 mile east of Dixie Highway, on south side of Hale road, at road forks; iron post stamped "Prim. Trav. Sta. No. 111, 1918. Elev. 744." Elevation 743.616 feet (226.655 meters).....	37 57 63.34	85 56 22.69	1,300
Pleasant View Church, 0.5 mile east of, thence 0.5 mile north, 12 feet west of center line of Hale road, on center line of farm road northwest, on fence line, in hub; copper nail and washer, marked "U. S. T. B. M. 737.9." Elevation 737.99 feet (224.940 meters).....	37 57 23.17	85 56 16.59	2,064
Pleasant View Church, 0.5 mile east of, thence 0.7 mile north, in center of Hale road, 25 feet south of stream crossing, on top of sandstone ledge; cross in chiseled square, marked "U. S. T. B. M. 693.8." Elevation 693.86 feet (211.489 meters).....	37 57 37.69	85 56 06.98	1,658
Stream crossing, 42 feet south by 12 feet east of; hub.....			
West Point, 2.75 miles south of, on Hale road, at northeast corner of T road east, in southwest corner of grass triangle; iron post stamped "Prim. Trav. Sta. No. 112, 1918. Elev. 747." Elevation 747.110 feet (227.720 meters).....	37 57 49.32	85 56 01.84	1,246
T road west; in hub.....	37 57 57.13	85 56 01.13	792
Opposite road through field east; hub.....	37 58 03.76	85 56 02.50	679
T road west; in hub.....	37 58 09.33	85 56 03.17	567
West Point, 1.7 miles south of Louisville, Henderson & St. Louis R. R. station, on west bank of Hale road, 30 feet north of farm road through orchard, in root on south side of 24-inch beech tree; copper nail and washer, marked "U. S. T. B. M. 686.0." Elevation 686.01 feet (209.096 meters).			
West Point, 2.2 miles south of Louisville, Henderson & St. Louis R. R. station, on west edge of Hale road, on south edge of farm road west, in root on east side of 12-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 725.4." Elevation 725.37 feet (221.093 meters).			
West Point, 1.46 miles south of Louisville, Henderson & St. Louis R. R. station, on east side of Hale road, in center of west edge of grass triangle, at fork east to Corey road; iron post stamped "Prim. Trav. Sta. No. 113, 1918. Elev. 684." Elevation 684.191 feet (208.542 meters).....	37 58 46.48	85 56 09.84	3,796
T road east through field.....	37 58 54.43	85 56 14.42	884
Farm road west.....	37 59 05.74	85 56 26.36	1,491
West Point, 0.8 mile south of Louisville, Henderson & St. Louis R. R. station, in west end of cross beam of wooden culvert, on west edge of Hale road, at farm road west, in hub; copper nail and washer, marked "U. S. T. B. M. 716.6." Elevation 716.64 feet (218.432 meters).			
T road southwest; hub.....	37 59 15.26	85 56 28.62	980
T road east; hub.....	37 59 18.08	85 56 28.03	290
West Point, 0.6 mile south of Louisville, Henderson & St. Louis R. R. station, 40 feet north of center of Hale road, 12 feet south of large birch tree, 75 feet south of gray-colored house; iron post stamped "Prim. Trav. Sta. No. 114, 1918. Elev. 652." Elevation 651.757 feet (198.656 meters).....	37 59 24.57	85 56 33.65	795
T road east; in hub.....	37 59 25.03	85 56 49.10	1,238
West Point, 0.4 mile south of Louisville, Henderson & St. Louis R. R. station, in Y forks of roads, on top of sandstone ledge; cross in chiseled square, marked "U. S. T. B. M. 443.3." Elevation 443.33 feet (135.127 meters).			
Road forks.....	37 59 25.83	85 56 57.19	659
East rail of Illinois Central R. R., at point of switch south of switch tower.....	37 59 29.95	85 57 00.83	476
West Point, 0.1 mile south of Louisville, Henderson & St. Louis R. R. station, at northeast corner of crossing of Hale road and railroad; top of section of rail set vertically, marked "U. S. T. B. M. 439.6." Elevation 439.56 feet (133.978 meters).			
Intersection of east rail of Illinois Central R. R. and south rail of Louisville, Henderson & St. Louis R. R.....	37 59 32.93	85 57 00.17	306
South end of trestle 304 feet long, on east rail.....	37 59 37.90	85 56 59.07	510
Point of switch, east rail of Illinois Central R. R.....	37 59 41.35	85 56 58.30	354
On edge of embankment, east of siding of Illinois Central R. R.....	37 59 46.27	85 56 56.63	515
Post No. 34, West Point (Bull. 310, p. 23) (previously described)....	37 59 54.10	85 56 57.92	799

Magnetic declination, 1° 07' E.



## From post No. 129 northwest to west border of quadrangle.

Primary leveling by E. E. Harris in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Post No. 129 (previously described).....	37 57 13.70	85 59 51.42	.....
Muldraugh, 0.1 mile west of, thence 1.2 miles north, in northwest angle at forks of lane southwest, in root on east side of 15-inch sycamore tree; copper nail and washer, marked "U. S. T. B. M. 736.1." Elevation 736.22 feet (224.400 meters).			
Farm road west.....	37 57 26.03	85 59 56.02	1,315

## From post No. 105 east and north via highways to post No. 154.

Primary traverse by H. S. Senseney in 1918; primary leveling by R. B. Steele in 1918.

Post No. 105 (previously described).....	37 56 01.86	85 56 57.52	.....
Stithton, 3.2 miles northeast of, on Dixie Highway, thence 0.5 mile east, in center of Wilder road, in line with T road south, in hub; copper nail and washer; a fence post 15 feet east is marked "U. S. T. B. M. 774.8." Elevation 774.83 feet (236.169 meters).			
Wilder road, at T road south; hub.....	37 56 00.93	85 56 23.69	2,713
Stithton, 3.5 miles northeast of, 0.7 mile east of Dixie Highway, on south side of Wilder road, 25 feet east of gate; iron post stamped "Prim. Trav. Sta. No. 152, 1918. Elev. 774." Elevation 773.935 feet (235.896 meters).....	37 56 04.17	85 56 11.97	995
South side of Wilder road, at top of hill; hub.....	37 56 00.19	85 55 43.81	2,292
Stithton, 4 miles northeast of, 1.2 miles east of Dixie Highway, on south side of Wilder road, at break of hill, top of hub; copper nail and washer; a 5-inch oak tree 10 feet northeast is marked "U. S. T. B. M. 741.5." Elevation 741.52 feet (226.015 meters).			
Stithton, 4.5 miles northeast of, 1.6 miles east of Dixie Highway, on south side of Wilder road, near foot of hill, in base of south gate post; wire nail, post is marked "U. S. T. B. M. 461.1." Elevation 461.10 feet (140.543 meters).			
Stithton, 4.6 miles northeast of, on north side of Wilder road, 200 feet west of forks; iron post stamped "Prim. Trav. Sta. No. 153, 1918. Elev. 418." Elevation 422.432 feet (128.758 meters).....	37 55 51.53	85 55 12.78	2,636
East side of road, at old road forks; hub.....	37 56 04.77	85 55 10.21	1,355
Stithton, 4.5 miles northeast of, 0.4 mile north of Wilder road, on west side of road, at T road east, in root of 14-inch hickory tree; wire nail; tree marked "614.4." Elevation 614.40 feet (187.270 meters).			
Artillery Range Signal No. 8; iron post stamped "Art. Tri. Sta. No. 8, 1918. Elev. 776." Elevation 776.296 feet (236.615 meters).			
Stithton, 4.7 miles northeast of, 0.7 mile north of Wilder road, at top of hill, on east side of road, in root of 40-inch oak tree. Elevation 771.64 feet (235.196 meters).	37 56 29.74	85 55 20.21	2,650
East side of road, at road east to house; hub.....	37 56 37.33	85 55 13.79	925

## From post No. 154 west and north to post No. 111.

Primary leveling by E. E. Harris in 1918.

Iron post No. 154 (previously described).....	37 56 46.40	85 55 15.41	926
Harboldt School, 0.5 mile east of, in southeast corner of T road south, in hub; copper nail and washer, marked "U. S. T. B. M. 735.9." Elevation 736.03 feet (224.342 meters).			
North side of road, at T road south; hub.....	37 56 40.55	85 55 33.54	1,568
Harboldt School, 0.2 mile east of, on north edge of road, at forks of drain, in bed of drain to northeast, on top of sandstone ledge; chiseled square, marked "U. S. T. B. M. 705.2." Elevation 705.38 feet (215.000 meters).			
North side of road, at top of hill, at road south through gate; hub.....	37 56 46.18	85 55 56.08	1,892
Harboldt, in front of school, north side of road, on top of sandstone outcrop; marked square "734.2." Elevation 734.36 feet (223.834 meters).			
South side of road, in line with T road north; hub.....	37 56 39.02	85 56 15.67	1,728
Harboldt School, 0.2 mile west of, on south side of road, in line with T road north, in hub; copper nail and washer, marked "U. S. B. M. 730.7." Elevation 730.89 feet (222.775 meters).			
Post No. 111 (previously described).....	37 57 03.34	85 56 22.69	2,524

Magnetic declination, 0° 47' E.

From post No. 198 west via highways to post No. 202.

Primary traverse by O. B. Walsh in 1919.

Station.	Latitude.	Longitude.	Distance between stations.
	° ' "	° ' "	Feet.
Post No. 198 (previously described).....	37 55 47.81	85 53 06.52	.....
North side of road, west of fence; in hub.....	37 55 58.38	85 53 28.73	2,076
Stithton, 5.0 miles northeast of, on Webster road, thence 1 mile west, on north side of road, 8 feet southeast of barn, in hub; copper nail and washer, marked "U. S. T. B. M. 451.3." Elevation 451.06 feet (137.483 meters).			
Post No. 201 (previously described).....	37 56 01.30	85 54 23.19	4,375
Post No. 202 (previously described).....	37 55 39.76	85 54 46.67	2,879

From post No. 202 to signal No. 22.

Artillery Range Signal No. 22; iron post stamped "Art. Tri. Sta. No. 22, 1918. Elev. 603." Elevation 602.921 feet (183.771 meters)	37 55 43.58	85 54 43.05	483
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From point near post No. 159 to signal No. 15.

Artillery Range Signal No. 15; iron post stamped "Art. Tri. Sta. No. 15, 1918. Elev. 710." Elevation 710.332 feet (216.510 meters)	37 55 22.05	85 55 06.86	3,173
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From post No. 181 northeast and northwest along highways to post No. 187.

Primary traverse by H. S. Senseney in 1918.

Post No. 181 (previously described).....	37 59 12.81	85 51 18.83	.....
Mount Olive School, 80 feet east of, on north side of road, in root on east side of 15-inch oak tree; copper nail and washer, marked "U. S. T. B. M. 818.3." Elevation 818.19 feet (249.385 meters).			
Mount Olive School, 0.2 mile northeast of, south side of Highland Ridge road, at road forks north, at G. L. Gibson's residence; iron post stamped "Prim. Trav. Sta. No. 182, 1918. Elev. 862." Elevation 861.568 feet (262.606 meters).....	37 59 24.16	85 50 43.58	3,047
Mount Olive School, 0.9 mile north of, on southwest side of road, in top of box culvert; copper nail and washer, marked "U. S. T. B. M. 804.0." Elevation 803.93 feet (245.038 meters).			
North side of road, west side of lane, 25 feet south of gate; hub.....	37 59 44.45	85 51 10.26	2,964
Sites station, 3.02 miles southeast of, thence 1 mile south, at forks of lane west, in east end of wooden culvert; copper nail and washer, marked "U. S. T. B. M. 787.2." Elevation 787.11 feet (239.912 meters).			

From post No. 189 south via abandoned road to Salt River.

Post No. 189 (previously described).....	37 58 16.73	85 51 04.02	.....
Chapel Ridge School, 1.8 miles northeast of, thence 0.6 mile south, in northeast angle of forks at road east, in hub; copper nail and washer, marked "U. S. T. B. M. 493." Elevation 492.47 feet (150.258 meters).			
Foot of hill, near tobacco patch, in line with road north; hub.....	37 57 49.85	85 50 49.67	2,951
In field, 2 feet north of east-west wire fence; hub.....	37 57 24.22	85 50 57.37	2,663
Chapel Ridge School, about 1.5 miles southeast of, southwest side of river road, 20 feet southwest of Rareden road forks northeast; iron post stamped "Prim. Trav. Sta. No. 194, 1918. Elev. 449." Elevation 448.864 feet (136.814 meters).....	37 57 07.01	85 50 57.63	1,739
South side of road, in line with road south; hub.....	37 57 00.86	85 50 50.33	852
Chapel Ridge School, 2.3 miles southeast of, 130 feet south of an old abandoned house, on bluff on north side of Salt River; t. b. m. in hub, copper nail and washer, marked "U. S. T. B. M. 439.1." Elevation 438.96 feet (133.796 meters).....	37 56 43.80	85 51 14.04	2,566
Salt River, surface of water, August 30, 1918. Elevation 374.0 feet (114.0 meters).			

Magnetic declination, 0° 11' E.

## From point near post No. 159 to signal No. 15.

Primary traverse by O. B. Walsh in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Devore road, at west entrance to, on east side of Dixie Highway; t. b. m. Elevation 693.88 feet (211.495 meters). Artillery Range Signal No. 16; iron post stamped "Art. Tri. Sta. No. 16, 1918. Elev. 776." Elevation 776.401 feet (236.047 meters).....	° ' " 37 54 46.98	° ' " 85 55 58.82	Feet. 2,513

## From point near post No. 159 to signal No. 17.

Artillery Range Signal No. 17; iron post stamped "Art. Tri. Sta. No. 17, 1918. Elev. 746." Elevation 746.136 feet (227.423 meters).....	37 55 00.34	85 55 13.45	1,371
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## From post No. 155 to post No. 123.

Primary traverse by Capt. E. C. Bebb in 1918; primary leveling by R. B. Steele in 1918.

Post No. 155 (previously described).....	37 56 39.01	85 58 56.59	.....
Opposite T road north; in hub.....	37 56 45.52	85 58 31.60	2,107
Iron post No. 125 (previously described).....	37 56 47.86	85 58 27.71	390
Southeast side of road, 5 feet north of gate to B. Robinson's house. Muldraugh, 1.5 miles northeast of, on northwest side of road, at T road northwest, on top of stone; chiseled square; a gate 10 feet west is marked "U. S. T. B. M. 714.5". Elevation 714.66 feet (217.829 meters).	37 57 02.12	85 58 08.60	2,103
At farm road north; hub.....	37 57 09.39	85 58 03.11	856
Muldraugh, 2.0 miles northeast of, on east side of road, 15 feet north of T road west, in hub; copper nail and washer, marked "U. S. T. B. M. 687.0". Elevation 687.19 feet (209.456 meters).	37 57 32.69	85 57 53.92	2,468
At T road southwest; hub.....	37 57 39.95	85 57 58.37	815
Tioga station, 0.4 mile south of, 67 feet northeast of Shady Grove schoolhouse door, 20 feet west of road; iron post stamped "Prim. Trav. Sta. No. 126, 1918. Elev. 685". Elevation 685.315 feet (208.384 meters).....	37 57 50.11	85 58 02.16	1,072
At T road east; hub.....	37 57 55.45	85 58 07.19	674
Tioga station, 0.2 mile south of, at break of hill, 100 feet north of road fork, on west side of road, in root of 40-inch oak tree; copper nail and washer; tree is marked "U. S. T. B. M. 668.5". Elevation 668.80 feet (203.851 meters).	37 57 59.62	85 58 05.76	437
South end of bridge.....	37 58 03.62	85 57 59.60	637
Tioga station, on Illinois Central R. R.; top of south rail; a box culvert 30 feet south is marked "U. S. T. B. M. 558.25". Elevation 558.5 feet (170.23 meters).....			
Post No. 123 (previously described).....			
Tioga, 0.3 mile northeast of, on north side of road, in road fork southwest, top of large boulder; chiseled square. Elevation 473.27 feet (144.253 meters).			

Magnetic declination, 0° 50' E.

## From hub at T road southwest on Hale road to signals Nos. 28 and 29.

Artillery Range Signal No. 28; iron post stamped "Art. Tri. Sta. No. 28, 1918. Elev. 769". Elevation 769.254 feet (234.469 meters)	37 59 24.12	85 56 05.55	2,053
Artillery Range Signal No. 29; iron post stamped "Art. Tri. Sta. No. 29, 1918. Elev. 749". Elevation 749.465 feet (228.437 meters)	37 59 28.51	85 55 57.55	779

## From range point above to signal No. 26.

Primary traverse by O. B. Walsh in 1918.

Artillery Range Signal No. 26; iron post stamped "Art. Tri. Sta. No. 26, 1918. Elev. 729". Elevation 728.972 feet (222.191 meters)	37 58 54.85	85 56 43.86	2,398
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## From hub at T road west on Hale road to signal No. 32.

Primary traverse by Capt. E. C. Bebb in 1918.

Station.	Latitude.	Longitude.	Distance between stations.
Artillery Range Signal No. 32; iron post stamped "Art. Tri. Sta. No. 32, 1918. Elev. 750". Elevation 750.714 feet (228.818 meters)	° ' " 37 58 02.62	° ' " 85 55 53.84	<i>Feet.</i> 1,009

## From post No. 101 to signals Nos. 23 and 24.

Artillery Range Signal No. 24; iron post stamped "Art. Tri. Sta. No. 24, 1918. Elev. 725". Elevation 725.401 feet (221.103 meters)	37 58 07.64	85 57 11.73	2,181
Artillery Range Signal No. 23; iron post stamped "Art. Tri. Sta. No. 23, 1918. Elev. 756". Elevation 755.774 feet (230.360 meters)	37 57 50.38	85 56 44.60	2,787

## From point on Hale road to signal No. 5.

Artillery Range Signal No. 5; iron post stamped "Art. Tri. Sta. No. 5, 1918. Elev. 770". Elevation 770.494 feet (234.847 meters)	37 57 26.80	85 56 52.40	2,891
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## From post No. 113 to signal No. 23.

Post No. 113 (previously described).....	37 58 46.48	85 56 09.84	.....
Artillery Range Signal No. 25; iron post stamped "Art. Tri. Sta. No. 25, 1918. Elev. 725". Elevation 725.259 feet (221.059 meters)	37 58 37.54	85 56 38.16	2,449
Artillery Range Signal No. 25, 0.4 mile south of, in Y forks of road, in hub; copper nail and washer, marked "U. S. T. B. M. 698.6". Elevation 698.64 feet (212.946 meters).			
Hub (t. b. m.).....	37 58 23.81	85 56 45.29	1,483
Dead sycamore tree, 100 feet northwest of, in open field on hill; hub.	37 57 56.19	85 56 33.32	2,954
Signal No. 23 (previously described).....	37 57 50.38	85 56 44.60	1,078

## From hub at T road northeast near schoolhouse to signal No. 14.

Primary traverse by H. S. Senseney in 1918.

Artillery Range Signal No. 14; iron post stamped "Art. Tri. Sta. No. 14, 1918. Elev. 757". Elevation 756.883 feet (230.698 meters).....	37 55 13.22	85 55 37.09	1,253
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## From post No. 111 to signal No. 2.

Primary traverse by O. B. Walsh in 1918.

Artillery Range Signal No. 2; iron post stamped "Art. Tri. Sta. No. 2, 1918. Elev. 779". Elevation 778.525 feet (237.295 meters)	37 57 07.68	85 55 56.13	2,170
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## From farm-road crossing on Corey road to signal No. 34.

Artillery Range Signal No. 34; iron post stamped "Art. Tri. Sta. No. 34, 1918. Elev. 759". Elevation 759.451 feet (231.481 meters)	37 57 29.76	85 55 11.69	952
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## From hub at T road east on Corey road to signal No. 4.

Artillery Range Signal No. 4; iron post stamped "Art. Tri. Sta. No. 4, 1918. Elev. 750". Elevation 750.714 feet (228.818 meters)	37 58 05.35	85 55 02.22	1,479
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**From hub at farm-road crossing on Corey road to signal No. 37.**

Station.	Latitude.	Longitude.	Distance between stations.
Artillery Range Signal No. 37; iron post stamped "Art. Tri. Sta. No. 37, 1918. Elev. 767". Elevation 767.001 feet (233.782 meters)	° ' " 37 57 34.42	° ' " 85 55 47.18	<i>Fect.</i> 1,932

**From post No. 113 to signal No. 27.**

Artillery Range Signal No. 27; iron post stamped "Art. Tri. Sta. No. 27, 1918. Elev. 745". Elevation 745.214 feet (227.142 meters)	37 58 57.75	85 56 02.25	1,292
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**From post No. 104 to signal No. 6.**

Artillery Range Signal No. 6; iron post stamped "Art. Tri. Sta. No. 6, 1918. Elev. 780". Elevation 779.837 feet (237.695 meters)	37 56 31.86	85 56 50.28	1,141
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**From hub on north side of road, at top of hill, at road south through gate to signal No. 7.**

Artillery Range Signal No. 7; iron post stamped "Art. Tri. Sta. No. 7, 1918. Elev. 760". Elevation 760.130 feet (231.688 meters)	37 56 34.34	85 55 47.55	1,379
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**From post No. 152 to signal No. 11.**

Artillery Range Signal No. 11; iron post stamped "Art. Tri. Sta. No. 11, 1918. Elev. 772". Elevation 772.218 feet (235.373 meters)	37 56 03.14	85 56 07.40	381
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**From post No. 106 to signal No. 12.**

Artillery Range Signal No. 12; iron post stamped "Art. Tri. Sta. No. 12, 1918. Elev. 772". Elevation 772.131 feet (235.346 meters)	37 55 37.75	85 56 11.52	3,133
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**From Cupio southeast along highways to Highland Ridge road near Mount Olive School.**

Primary leveling by E. E. Harris in 1918.

Cupio, 0.45 mile east of, on north side of Tiddings road, in forks of lane to farmhouse, in root on south side of 20-inch beech tree: copper nail and washer, marked "U. S. T. B. M. 432.8." Elevation 432.80 feet (131.918 meters).			
Cupio, 0.98 mile southeast of, on top of ridge, in southwest corner of road forks, on top of sandstone outcrop: chiseled square, marked "U. S. T. B. M. 735.1". Elevation 735.11 feet (224.062 meters).			
Cupio, 1.71 miles southeast of, on east side of Tiddings road and on south side of farm road to northeast, in 2 by 2-inch hub: copper nail and washer, marked "U. S. T. B. M. 779.6". Elevation 779.52 feet (237.598 meters).			

**From point 0.3 mile northwest of Bartles School west to Bartles station.**

Primary leveling by R. B. Steele in 1918.

Bartles School, 0.56 mile northwest of, on north edge of road to Bartles station, in line with T road south, on top of high ridge, in top of 2 by 2-inch stake: copper nail and washer; gate 30 feet south is marked "U. S. T. B. M. 497.1". Elevation 497.16 feet (151.535 meters).			
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# KENTUCKY AND TENNESSEE.

## TRIANGULATION STATIONS.

Barbourville, Baxter, Corbin, Hyden, Log Mountain, Middlesboro, and Pineville quadrangles.

BELL, HARLAN, KNOX, LESLIE, AND WHITLEY COUNTIES, KENTUCKY, LEE COUNTY, VIRGINIA, AND CLAIBORNE COUNTY, TENNESSEE.

During the season of 1916 E. L. McNair extended triangulation over six 15-minute quadrangles. Fifteen stations were occupied. Nine new stations were established, and five old stations were connected with and reestablished.

The work was started from United States Coast and Geodetic Survey stations McLean in Tennessee, and White Rock, on the Virginia-Kentucky line. All new stations established are in Kentucky, which State cooperated in the work.

Positions are on North American datum.

### BAD, LESLIE COUNTY, KY.

About 7 miles south by 3 miles east of Hyden between the basins of Middle Fork of Kentucky River and Coon Creek, at the head of Rockhouse Branch of Upper Bad Creek, at the head of Lower Bad Creek and Munsey Branch of Coon Creek. Knob is heavily timbered, and lines of sight have been cut to other stations. It may be reached from Jerry Bledsoe's on Coon Creek or by following up Upper or Lower Bad Creek.

Station mark: A sandstone boulder set 18 inches in ground, in top of which is a drill hole 3 inches deep.

[Latitude 37° 03' 21.7". Longitude 83° 19' 05.0'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
Stinnett.....	92 21 09	272 16 02	4.10061	7.834
Thousand Stick.....	147 04 52	327 01 50	4.16315	9.047
Harlan.....	359 57 31	179 57 31	4.24293	10.871

### BARNEY, KNOX AND LAUREL COUNTIES, KY.

About 11 miles northwest of Barbourville, at the head of Knox Fork of Richland Creek. A very prominent knob which, if some more timber were cut, would give an excellent view in every direction. Land belongs to Floyd Blanton. West and north sides are not cleared.

Station mark: A hole drilled 2.5 inches deep in sandstone boulder embedded about 18 inches in the ground. The mark is 12 feet south of fence corner and just west of three bearing trees to land corner.

[Latitude 36° 59' 17.61". Longitude 83° 56' 52.55'']

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	<i>Log. meters.</i>	<i>Miles.</i>
King.....	40 05 29.84	220 00 16.09	4.3030481	12.485
Paint Gap.....	277 00 44.88	97 12 58.66	4.4830727	18.898
Hooker.....	334 52 25.30	154 55 59.39	4.3183122	12.932

**CAMP, HARLAN COUNTY, KY.**

About 2.5 miles south of Wallins Creek station, on west side of Wallins Creek, and at head of Camp, Forrester, and Sang creeks. From Wallins Creek follow power line of Kentucky Utilities Co. to top of ridge, then follow ridge to top of mountain. Knob is well cleared except a narrow strip along the ridge westward.

Station mark: A drill hole 2.5 inches deep in solid ledge of rock.

Reference marks: (1) A drill hole 2.5 inches deep in shale rock with arrow pointing to station mark; distant 9.3 feet, true azimuth  $289^{\circ} 24'$ ; (2) white-oak signal tree 2 feet in diameter, distant 12.65 feet; true azimuth,  $341^{\circ} 47'$ .

[Latitude  $36^{\circ} 46' 58.21''$ . Longitude  $83^{\circ} 25' 19.88''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
White Rock.....	11 18 08.41	191 17 05.51	4.124939	8.282
Tejay.....	66 03 56.88	246 00 11.16	4.0101507	6.361
Paint Gap.....	138 51 06.43	318 44 22.91	4.4029135	15.713
Harlan.....	215 55 37.75	35 59 22.84	4.1997811	9.843
Grays Knob.....	267 18 26.12	87 23 08.87	4.0689409	7.283

**GRAYS KNOB, HARLAN COUNTY, KY.**

On Little Black Mountain, 5 miles by road southeast of Harlan. Follow public road up Martins Fork to mouth of Grays Branch. Station is at head of Grays Branch, about 2 miles south of Martins Fork. Knob is sharp and well cleared.

Station mark: Dead stub of old signal tree.

[Latitude  $36^{\circ} 47' 15.81''$  (Mc);  $36^{\circ} 47' 16.2''$  (K). Longitude  $83^{\circ} 17' 27.70''$  (Mc);  $83^{\circ} 17' 26.4''$  (K).]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
White Rock (K).....	46 29 55	226 24 10	4.295623	.....
Long Spur (K).....	232 44 14	52 53 11	4.444875	.....
Harlan (K).....	168 57 46	348 56 48	4.097454	.....
Paint Gap (K).....	123 12 27	303 01 00	4.529809	.....
White Rock (Mc).....	46 30 39.25	226 24 53.99	4.2958581	12.280
Camp (Mc).....	87 23 08.86	267 18 26.12	4.0689409	7.283
Harlan (Mc).....	168 57 37.79	348 56 39.77	4.0973134	7.774

NOTE.—(K)=positions by F. J. Knight in 1885; (Mc)=positions by E. L. McNair in 1916.

**BEARWALLOW, BELL COUNTY, KY.**

About 3.5 miles southwest of Pineville, on Pine Mountain, and just west of Bearwallow Gap.

Station mark: A drill hole 2.5 inches deep in boulder set in ground, flush with surface.

[Latitude  $36^{\circ} 44' 38.1''$ . Longitude  $83^{\circ} 44' 54.0''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hooker.....	132 39 56	312 36 19	4.08639	7.581
Tejay.....	269 28 05	89 36 02	4.29608	12.287
White Rock.....	.....	108 20 38	4.44623	17.361

**HARLAN, HARLAN COUNTY, KY.**

On Pine Mountain about 4 miles north of Harlan. Station may be reached from Gatun flag station on Louisville & Nashville R. R., from which a road leads across Pine Mountain. Road is very rough and suitable only for saddle horses. Station is a short half mile west of gap where road crosses the mountain. Old station mark has disappeared, but new position is about the same as the old.

Station mark: A jelly glass inverted, set 1 foot below surface of ground.

Reference mark: A drill hole 2.5 inches deep in shale ledge of rock, which projects slightly above ground: distant 7.65 feet, true azimuth  $241^{\circ} 35'$ .

Latitude  $36^{\circ} 53' 53.76''$  (Hawkins);  $36^{\circ} 53' 54.17''$  (McNair). Longitude  $83^{\circ} 19' 04.88''$  (Hawkins);  $83^{\circ} 19' 04.47''$  (McNair).]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Camp.....	35 59 22.843	215 55 37.75	4.1997811	9.843
Paint Gap.....	103 32 17.94	283 21 48.34	4.4260012	16.571
Stinnett.....	145 00 30	324 55 23	4.34218	13.662
Thousand Stick.....	165 04 05	315 01 00	4.48793	19.111
Thousand Stick α.....	165 03 38.73	345 00 25.18	4.4879384	19.111
Bad.....	179 57 31.00	359 57 31.00	4.2429300	10.871
Brashear α.....	214 01 51.14	34 08 06.57	4.4397113	17.103
Long Spur α.....	259 23 36.48	79 33 32.52	4.3976120	15.523
Gray's Knob.....	348 56 39.77	168 57 37.80	4.0973134	7.774

NOTE.—From Table Rock and Ivy, W. Va., stations of U. S. C. & G. S.

α From Bull. 496, p. 116.

**HOOVER, KNOX COUNTY, KY.**

About 3.5 miles southeast of Barbourville and 1 mile southwest of Artemus, on prominent knob plainly visible from both places. Just south of Cumberland River. Hill is well cleared, one lone chestnut-oak tree standing.

Station mark: A drill hole 3 inches deep in sandstone boulder set flush with surface of ground.

Reference marks: (1) Lone chestnut-oak tree, 24 inches in diameter, distant 8.7 feet; true azimuth  $8^{\circ} 22'$ ; (2) drill hole 3 inches deep in large sandstone boulder, distant 20.2 feet; true azimuth  $279^{\circ} 26'$ ; (3) drill hole 3 inches deep in sandstone boulder, distant 36.3 feet; true azimuth  $238^{\circ} 21'$ .

[Latitude  $36^{\circ} 49' 06.20''$ . Longitude  $83^{\circ} 50' 55.99''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
King.....	99 06 55.16	278 58 08.27	4.3434507	13.703
Barney.....	154 55 59.39	334 52 25.29	4.3183122	12.932
Paint Gap.....	234 44 09.55	54 52 47.88	4.4177485	16.259
Tejay.....	285 39 01.53	105 50 35.48	4.4750755	18.553
White Rock.....	295 29 26.01	115 43 42.00	4.5951420	24.462
Occident.....	298 24 56.5	118 30 11.1	4.17078	9.207
Bearwallow.....	312 36 19	132 39 56	4.08639	7.581
Log.....	358 00 18.31	178 00 34.36	4.2820630	11.896

**KING, WHITLEY COUNTY, KY.**

About 7 miles south of Corbin and 2 miles east of Brummet station on Louisville & Nashville R. R. On east end of highest ridge in neighborhood. From Brummet station, go to James Brown's place at head of creek and up through his fields to top of ridge, which follow south and east to station. View is good to north, east, and south-east but is cut off on west.



Station mark: A large boulder set in ground with drill hole and cross lines north-south and east-west and letters U. S. G. S. cut in each quadrant.

Reference marks: (1) Hickory tree 14 inches in diameter, distant 39 feet; true azimuth  $165^{\circ} 00'$ ; (2) black-oak tree 10 inches in diameter, distant 16.5 feet; true azimuth  $269^{\circ} 51'$ ; (3) a stone set in ground with small drill hole and arrow pointing to station, distant 6 feet; true azimuth  $82^{\circ} 13'$ .

[Latitude  $36^{\circ} 50' 58.63''$ . Longitude  $83^{\circ} 05' 34.86''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Barney.....	220 00 16.096	40 05 29.844	4.3030481	12.485
Paint Gap.....	254 47 08.845	75 04 35.082	4.0500615	27.760
Hooker.....	278 58 08.278	99 00 55.158	4.3434507	13.703
Log.....	315 05 30.214	135 14 32.089	4.5035509	19.802
McLean.....	340 47 07.811	160 52 58.087	4.6471732	27.575

#### LOG, BELL COUNTY, KY.

Situated 1.5 miles south of Chenoa (end of branch of Louisville & Nashville R. R.) and 0.8 mile south of Harrison post office at Log Mountain Coal Co.'s mines, on a spur of Log Mountain. Station is on a flat-topped ridge and lines of sight were cut to other stations. View is good to the north, but station is not worth further development. The sight to White Rock can not be made from the station but can be made from a point about 185 feet south of station.

Station mark: A drill hole about 3 inches deep in oblong sandstone boulder firmly embedded. It is on north edge of ridge close to trail leading down to gap, which is about 500 feet northeast of station. A telephone line crosses the mountain about 1,000 feet east of station.

Reference marks: Two drill holes about 1 inch deep, with chiseled arrows pointing toward station: No. 1 distant 16.2 feet; true azimuth  $171^{\circ} 53'$ ; No. 2 distant 9.25 feet; true azimuth  $214^{\circ} 18'$ .

[Latitude  $36^{\circ} 38' 45.48''$ . Longitude  $83^{\circ} 50' 29.16''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
McLean.....	22 21 14.118	202 18 04.074	4.3198364	12.977
King.....	135 14 32.089	315 05 30.214	4.5033509	19.802
Hooker.....	178 00 34.360	358 00 18.314	4.2820630	11.896
Tejay.....	248 28 38.001	68 39 54.527	4.4798865	18.760
White Rock.....	266 24 31.940	86 38 30.185	4.5432972	21.709

#### OCCIDENT, BELL COUNTY, KY.

On top of Pine Mountain, just south of Pineville and about 0.8 mile from Continental Hotel. Summit well cleared.

Station mark: A drill hole 2.5 inches deep in solid rock.

[Latitude  $36^{\circ} 45' 17.1''$ . Longitude  $83^{\circ} 42' 10.6''$ .]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hooker.....	118 30 11	298 24 56	4.17078	9.207
Tejay.....	273 44 29	93 50 48	4.19735	9.788
White Rock.....	293 48 53	113 57 54	4.39062	15.275

## PAINT GAP, KNOX AND CLAY COUNTIES, KY.

About 18 miles north of Pineville, at the head of Stinking Creek and Goose Creek, 0.25 mile west of gap where road crosses from one creek to the other. A well-cleared knob and good view in every direction except east and northeast.

Station mark: A hole 3 inches deep in sandstone boulder. Subsurface mark: A thirty-penny spike driven in soft sandstone about 15 inches below the surface.

[Latitude 36° 57' 15.41". Longitude 83° 36' 32.44".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Hooker.....	54 52 47.88	234 44 09.55	4.4177485	16.259
King.....	75 04 35.08	254 47 08.84	4.6500615	27.760
Barney.....	97 12 58.66	277 00 44.87	4.4830727	18.898
Stinnett.....	228 21 25	48 26 49	4.24979	11.044
Harlan.....	283 21 48.33	103 32 17.94	4.4260012	16.571
Camp.....	318 44 22.91	138 51 06.43	4.4029135	15.713
Tejay.....	342 27 18.54	162 30 15.71	4.3858122	15.106

## STINNETT, LESLIE COUNTY, KY.

About 7 miles south and 5 miles west of Hyden, at the head of Stinnett Creek and Woodson Branch of Bowen Creek, and about 0.25 mile northwest of gap where road crosses divide. Land is owned by Thomas Collins, who lives near the head of Stinnett Creek. Hill partly timbered. Good view in north and east, but view west is largely shut off. Some cutting would open a good view to southwest.

Station mark: A sandstone boulder about 18 inches long, set in ground flush with surface. In top is a drill hole about 2.5 inches deep. Mark is about 8 feet west of a rail fence and about 35 feet east of a fence corner.

Reference mark: A dead tree, distant 24 feet; true azimuth 307°46'.

[Latitude 37° 03' 38.2". Longitude 83° 27' 34.8".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Paint Gap.....	48 26 49	228 21 25	4.24979	11.044
Bad.....	272 16 02	92 21 09	4.10061	7.834
Harlan.....	324 55 23	145 00 30	4.34218	13.662

## TEJAY, BELL COUNTY, KY.

On a high knob about 2 miles southeast of Tejay station on Louisville & Nashville R. R. (Harlan Branch) and in plain view from the station. Timber is mostly cleared from the summit. Knob is locally known as Jackson's Knob.

Station mark: A drill hole 2.5 inches deep in large flat stone on surface of ground.

[Latitude 36° 44' 43.32". Longitude 83° 31' 37.02".]

To station—	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Log.....	68 39 54.52	248 28 38.00	4.4798865	18.760
Bearwallow.....	89 36 02	269 28 05	4.29608	12.287
Occident.....	93 50 48	273 44 29	4.19735	9.788
Hooker.....	105 50 35.48	285 39 01.52	4.4750755	18.553
Paint Gap.....	162 30 15.71	342 27 18.54	4.3858122	15.106
Camp.....	246 00 11.15	66 03 56.88	4.0101507	6.361
White Rock.....	322 50 19.29	142 23 01.84	4.0484631	6.947

**THOUSAND STICK, LESLIE COUNTY, KY.**

About 1.5 miles northwest of Hyden, on knob having good view from north to east and south, but is not as high as some surrounding knobs on the west. Old mark destroyed.

Station mark: An inverted bottle placed about 6 inches below the surface at approximate location of old station.

Reference marks: (1) Signal tree, distant 16.7 feet; true azimuth  $223^{\circ} 00'$ ; (2) drill hole in sandstone boulder, distant 23.5 feet; true azimuth  $257^{\circ}$ ; (3) drill hole in sandstone ledge, distant 33 feet; true azimuth  $351^{\circ}$ ; (4) drill hole in sandstone ledge, distant 19.4 feet; true azimuth  $64^{\circ}$ .

[Latitude  $37^{\circ} 09' 58.1''$ ;  $37^{\circ} 09' 57.65''$ .<sup>a</sup> Longitude  $83^{\circ} 24' 25.7''$ ;  $83^{\circ} 24' 26.25''$ .<sup>a</sup>]

To station.	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Lost b.....	229 35 09.11	49 43 14.70	4.4141161	16.124
Brashear b.....	286 26 09.43	106 35 40.03	4.3861985	15.120
Long Spur b.....	307 39 37.39	127 52 48.92	4.6134433	25.515
Harlan b.....	345 00 25.18	165 03 38.73	4.4879384	19.111
Bad.....	327 01 50	147 04 52	4.16315	9.047
Harlan.....	345 01 00	165 04 05	4.48793	19.111

<sup>a</sup> From Table Rock and Ivy stations, W. Va., U. S. C. & G. S.

<sup>b</sup> From Bull, 496, p. 119.

**WHITE ROCK, HARLAN COUNTY, KY., AND LEE COUNTY, VA.**

A Coast and Geodetic Survey station on Cumberland Mountain opposite Ewing railroad station on Louisville & Nashville R. R. and about 3 miles distant by road and trail. On State line between Virginia and Kentucky. Any resident can direct best way to reach the summit. Mountain is entirely cleared, and there is a very extended view, particularly to the south. The observer may see into four States on a clear day.

Station mark: Drill hole 2 inches deep in solid rock nearly level with surface. Two chiseled grooves cut north-south and east-west intersect at center of hole, with letters U.S.C.S., one in each quadrant.

Reference marks: Three 2-inch holes drilled in solid rock, with grooves terminating in arrowheads pointing to station: (1) N.  $89^{\circ} 25' W.$ , 13 feet 11.5 inches; (2) S.  $41^{\circ} 06' E.$ , 9 feet; (3) S.  $12^{\circ} 21' W.$ , 30 feet 3 inches.

[Latitude  $36^{\circ} 39' 54.17''$ . Longitude  $83^{\circ} 27' 05.07''$ .]

To station.	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
Minter.....	8 55 05	188 54 37	3.88179	4.733
Clinch.....	24 21 34.56	204 11 50.90	4.7749749	37.011
McLean.....	63 33 46.90	243 16 40.28	4.6804223	29.770
Kentucky Corner.....	66 57 02.40	246 48 27.60	4.3676700	14.488
Virginia Corner.....	70 31 19.90	250 23 18.90	4.3274100	13.206
Pinnacle.....	71 05 26.70	250 57 46.30	4.3068000	12.594
Log.....	86 38 30.18	266 24 31.94	4.5432972	21.709
Bearwallow.....	108 20 38	.....	4.44623	17.361
Occident.....	113 57 54	293 48 53	4.39062	15.275
Hooker.....	115 43 42	295 29 26.01	4.5951420	24.462
Tejay.....	142 53 01.84	322 50 19.29	4.0484631	6.947
Camp.....	191 17 05.51	11 18 08.41	4.1247939	8.282
Grays Knob.....	226 24 53.99	46 30 39.25	4.2958581	12.280
Buzzard.....	259 57 57.25	80 15 51.63	4.6584928	28.304
Big Knob.....	269 44 59.46	90 18 51.91	4.9269911	52.522
Powell.....	287 40 09	107 50 02	4.4133010	16.093
Short.....	322 14 45.15	142 24 27.19	4.6000110	24.738

## McLEAN, CLAIBORNE COUNTY, TENN.

A Coast and Geodetic Survey station on Cumberland Mountain, about 3 miles west and a little north from Speedwell and about the same distance northeast from Wells Spring. Station is on a high point of the mountain and has a precipitous bluff on the south and sloping timbered ground on the north. A rough wagon road leaves the valley road about 400 yards west of John L. Ausmus's house and leads to top of mountain at Wilson Gap. Leave wagon road there and follow ridge west 1.5 miles to station. A saddle horse may be ridden all the way to station.

Station mark: A drill hole 2 inches deep in solid rock with grooves crossing through it north, south, east and west, with letters U.S.C.S., one in each quadrant.

Reference marks: (1) drill hole with arrow pointing to station, distant 25.3 feet; true azimuth  $329^{\circ} 37'$ ; (2) drill hole with arrow pointing to station, distant 37.4 feet; true azimuth  $49^{\circ} 20'$ ; (3) drill hole with arrow pointing to station, distant 36.5 feet; true azimuth  $195^{\circ} 00'$ .

[Latitude  $36^{\circ} 28' 18.72''$ . Longitude  $83^{\circ} 55' 48.22''$ .]

To station.	Azimuth.	Back azimuth.	Distance.	
	° ' "	° ' "	Log. meters.	Miles.
King.....	160 52 58.08	340 47 07.81	4.6471732	27.575
Log.....	202 18 04.07	22 21 14.11	4.3198364	12.977
Pinnacle.....	237 49 31.3	57 58 57.9	4.446275	17.363
Kentucky Corner.....	240 04 35.5	60 13 07.5	4.392204	15.330
White Rock.....	243 16 40.28	63 33 46.90	4.6804223	29.770
Clinch.....	330 36 40.61	150 43 59.00	4.5762106	23.419