

SURVEY CONTROL DATA IN QUADRANGLE 214

A 111 (USC&GS, 1935; Johnson County, Tennessee)

Located at Doe Station, on the Southern Railway (abandoned), about 240 yards northeast of the station, about 127 yards southwest of milepost 115, 19.5 feet south of the end of a spur track, 26.8 feet southeast of the southeast rail, 10.5 feet northwest of pole 104, and about level with the track. A standard USC&GS disk stamped "A 111 1935" and set in the top of a concrete post.

NOTE: Submerged at times by waters of Watauga Reservoir.
ELEVATION: 1956.069 feet or 596.211 meters (C & T-2)

A 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.8 miles northeast along the Beaverdam road from the Beaverdam Church at Reese, about 1.1 miles southwest of the North Carolina-Tennessee state line, about 200 feet northeast of a lone 24-inch poplar tree, about 175 feet south of a large barn, about 100 feet southwest of a barn and corner on the southeast side of the road, at a two-story farmhouse, 20 feet northwest of the front door, near a small gate to the house, and on the outside of the front fence. A standard USC&GS disk stamped "A 123 1935" and set in the top of a concrete post.

ELEVATION: 3336.378 feet or 1016.930 meters (C & T-2)

AA 7 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.8 miles northeast along the Laurel Branch road from Mast, at the junction of the Sweetwater road, about 100 yards north of the Ben Henson residence, about 44 yards northeast of a 22-inch oak tree, about 24 yards west and uphill from a lone 20-inch locust tree, 13.0 feet northwest of the center line of the road, in the top of a granite outcrop and about 7 feet higher than the road. A standard USC&GS disk stamped "AA 7 1935".

ELEVATION: 3362.201 feet or 1024.801 meters (C-2)

AA 8 (USC&GS, 1935; Watauga County, North Carolina)

Located about 0.6 mile northeast along the Beaverdam road from the Beaverdam Baptist Church at Reese, about 50 yards southwest of the Wilby Greene house, 15.4 feet south of the center line of the road, 10.3 feet southwest of the southeast corner of the south guardrail of a bridge over Beaverdam Creek, in the top of a granite outcrop, and about 1 foot lower than the bridge floor. A standard USC&GS disk stamped "AA 8 1935".

ELEVATION: 3080.286 feet or 938.873 meters (C-2)

AQ 179 (TVA, 1942; Johnson County, Tennessee)

Located in southwest central portion of Quadrangle 214 SW, 5.5 miles southeast of Butler, 0.25 miles south of Watauga River, about 800 feet west of Tennessee-North Carolina state line, 400 feet north of temporary State Highway 603, on property of Harry Fathing, 0.25 miles northeast of Fathing's house, 390 feet north of "Y 104 X", on most easterly and highest point of round bald hill overlooking Watauga River. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee Lambert): X = 3,201,549.8; Y = 713,968.8 (T-4)

B 103 (USC&GS, 1935; Johnson County, Tennessee)

Located 4.4 miles southeast along U. S. Highway 421 from the intersection of State Highway 91 at Shady Valley, about 100 yards northeast of the top of a mountain, 20 feet northwest of a 24-inch galvanized iron pipe culvert, at a small clearing, 21 feet north of the center line of the highway and about 2 feet higher than the highway. A standard USC&GS disk stamped "B 103 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot north of monument.

ELEVATION: 3861.370 feet or 1176.948 meters (C-2)

B 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 0.8 mile northeast along the Beaverdam road from the Beaverdam Church at Reese, about 0.4 mile northeast of Beaverdam School, on the Carl Swift property, about 0.2 mile east of a one-story farmhouse at an overshot waterwheel and generating plant, about 325 feet southwest of the junction of a farm road leading north, about 175 feet east of a fence junction, on the southeast side of the road, 45 feet southwest of a 6-inch leaning apple tree, 15 feet north of a 24-inch forked spruce tree and at the southeast edge of a small clearing between the road and Beaverdam Creek. A standard USC&GS disk stamped "B 123 1935" and set in the top of a concrete post.

ELEVATION: 3106.447 feet or 946.846 meters (T-2)

BALD OF STONE (USGS, 1934; Watauga County, North Carolina)

Located just south of Tennessee-North Carolina state line on wooded top of Stone Mountain, about 2.1 miles northeast of Locust Gap and about 8 miles (airline) south of Mountain City. To reach Mountain City, take U. S. Highway 311, go 9.7 miles, turn right, go 3 miles to State Line Gap, turn right through gate, go 1 mile to top of gap, walk about 1 mile, southwest to station. A standard USGS tablet stamped "BALD OF STONE 1934" and set in rock directly under 14-inch white oak.

GEODETIC POSITION: Lat. = 36°21'13.428"; Long. = 81°48'30.889" (G-3)

To Station	Azimuth	Back Azimuth	Log Meters	Miles
Iron	163°37'44.6"	343°35'37.9"	4.275076	11.7
Levis	217°45'44.2"	37°48'50.5"	4.106128	7.9
Bald of Rich	299°10'27.1"	119°13'42.9"	3.974985	5.9

GRID POSITION (Tennessee): X = 3,233,951.0; Y = 740,516.6 (G-3)

ELEVATION: 4657 feet (T-5)

BM 2059.4 (USGS, 1934; Carter County, Tennessee)

Located 7.2 miles northwest of Whaley by road, thence 1.1 miles north-west by trail, 3 feet northeast of trail, 30 feet southwest of edge of Elk River. A chiseled square on rock outcrop painted "B.M. 2059.4".

ELEVATION: 2058.40 feet (G-3)

BM 2099.1 (USGS, 1934; Carter County, Tennessee)

Located 7.2 miles northwest of Whaley by road, thence 1.7 miles north-west by trail, 50 feet west of center of Lunsford Branch, 400 feet southeast of new Lunsford Branch road, and in south root of 36-inch white pine tree. A copper nail and washer painted "B.M. 2099.1".

ELEVATION: 2098.18 feet (G-3)

BM 2575.1 (USGS, 1934; Watauga County, North Carolina)

Located 0.8 mile northeast of Beech Creek, 17 feet east of center of temporary State Highway 605, and 10 feet east of small drain. A chiseled square on large boulder painted "B.M. 2575.1".

ELEVATION: 2574.23 feet (G-3)

BM 2592.5 (USGS, 1934; Watauga County, North Carolina)

Located 6.3 miles southeast of Beech Creek at southeast corner of wooden bridge on temporary State Highway 603. A painted bolt head painted "B.M. 2592.5".

ELEVATION: 2591.57 feet (G-3)

BM 2654.4 (USGS, 1934; Watauga County, North Carolina)

Located 4.5 miles northwest of Vilas, 45 feet southeast of center of temporary State Highway 603, and on west cornerstone of old log barn. A chiseled square painted "B.M. 2654.4".

ELEVATION: 2653.51 feet (G-3)

BM 2662.8 (USGS, 1934; Watauga County, North Carolina)

Located 3.4 miles northwest of Vilas, 1 mile west of concrete bridge over Cove Creek, 20 feet north of center line of State Highway 603, on south-west corner stone of large frame barn. A chiseled square painted "B.M. 2662.8".

ELEVATION: 2661.84 feet (G-3)

BM 2707.5 (USGS, 1934; Watauga County, North Carolina)

Located 1.1 miles southeast along U. S. Highway 421 from Sugar Grove, 1.1 miles northwest of Vilas, on U. S. Highway 421, 20 feet north of a log cabin, 20 feet north of the center line of the highway, 20 feet north of a fence corner, on a large granite boulder on the west side of a group of boulders, and near the bottom of the boulder. A chiseled square on rock outcrop, set flush with ground and a painted surface, marked by the letters "BM 2707.5".

ELEVATION: 2706.533 feet or 824.953 meters (C-2)

BM 2718.2 (USGS, 1934; Avery County, North Carolina)

Located 4.3 miles northeast of Whaley, 75 feet northwest of center of tri-section of roads, in saddle of ridge, and in southeast root of 10-inch locust tree. A copper nail and washer painted "B.M. 2718.2".

ELEVATION: 2717.38 feet (G-3)

BM 2911.0 (USGS, 1934; Watauga County, North Carolina)

Located at Windy Gap, 3.2 miles southeast of Beech Creek, 70 feet north-west of center of temporary State Highway 603, 135 feet southwest of Windy Gap School door, and in south root of 24-inch locust tree. A copper nail and washer painted "B.M. 2911.0".

ELEVATION: 2910.17 feet (G-3)

BUCK RIDGE (USGS, 1934; Carter and Johnson Counties, Tennessee)

Located about 2.0 miles (airline) northwest of Whaley Post Office and 2.2 miles (airline) southeast of Elk Mills, on the highest knob of the portion of Little Stone Mountain, which lies southwest of the Watauga River Gap, 20 feet west of the highest point and about a foot lower. A standard USGS tablet stamped "BUCK RIDGE 1934" and set in outcrop of ledge.

Reference Mark 1: 11.3 feet S 67° W to drill hole in outcropping ledge.

Reference Mark 2: 11.9 feet N 24° 30' E to drill hole in outcropping ledge.

Reference Mark 3: 9.0 feet S 84° 15' E to drill hole in outcropping ledge.

Report on Condition (TVA, 1959): Found out of ground. Reference Mark 1 was recovered. Buck Ridge Fire Tower is 36 feet N 70° E from approximate location of Buck Ridge 1934 triangulation station.

GEODETIC POSITION: Lat. = 36°15'42.224"; Long. = 81°57'05.441" (G-3)

To Station	Azimuth	Back Azimuth	Log Meters	Miles
Hump	21°57'36.5"	201°55'28.0"	4.162803	9.0
Roan High Knob	41°26'46.4"	221°20'43.0"	4.366677	14.4
White Rock F.T. 80 34 06.6		260°28'05.6"	4.189010	9.6

GRID POSITION (Tennessee): X = 3,193,281.6; Y = 705,281.6 (G-3)

ELEVATION: 4298 feet (T-5)

BULADWEN (USGS, 1934; Carter and Johnson Counties, Tennessee)

Located 13-1/2 miles (airline) northeast of Elizabethton at head of Hickory Flat Branch, and head of Stout Creek and Campbell Creek. To reach from Elizabethton, take State Highway 91, 15.2 miles to Hickory Flat Branch to station. Turn right (south) 2 miles up Hickory Flat Branch to station, in ledge of rock on center line of ridge near southwest end of ridge and about 50 feet northeast of trail along Iron Mountain. Station is 30.7 feet S 60° W from lone oak tree in small clearing. A standard USGS tablet in ledge of rock.

Reference Mark 1: 52.9 feet N 10° E to drill hole in ledge of rock.

Reference Mark 2: 36.65 feet S 60° W to drill hole in ledge of rock.

GEODETIC POSITION: Lat. = 36°27'09.814"; Long. = 81°58'30.005" (G-3)

To Station	Azimuth	Back Azimuth	Log Meters	Miles
Pond	28°14'03.3"	208°10'02.5"	4.330806	13.3
Holston 2	82°49'42.3"	262°44'11.9"	4.144921	8.7
High End	172°34'10.4"	352°33'51.2"	3.792947	3.9
Iron	233°31'32.1"	53°35'21.6"	4.076827	7.4

GRID POSITION (Tennessee): X = 3,183,503.1; Y = 774,469.3 (G-3)

ELEVATION: 4126 feet (T-5)

C 103 (USC&GS, 1935; Johnson County, Tennessee)

Located about 4.0 miles northwest along U. S. Highway 421 from the post office at Mountain City, at the end of the macadam and beginning of the gravel highway, 7.6 miles eastward from junction with State Highway 91, about 50 yards southwest of the southwest corner of the Charley Payne log cabin, 22 feet west of the center line of U. S. Highway 421, at a fence line and about level with the highway. A standard USC&GS disk stamped "C 103 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot west of monument.

ELEVATION: 2891.129 feet or 881.218 meters (C-2)

C 105 (USC&GS, 1935; Carter County, Tennessee)

Located at Elk Mills, on the Elk River road, about 125 feet west of the right end of a two-span steel bridge over Elk River, about 225 feet east of a stone church, 100 feet east of the main entrance to a two-story brick school building, and 4 paces from the northeast corner of a cemetery. A standard USC&GS disk stamped "C 105 1935" and set in the top of a concrete post.

ELEVATION: 1994.287 feet or 607.860 meters (T-2)

C 123 (USC&GS, 1935; Watauga County, North Carolina)

Located at Reese, at the junction of the Beaverdam road and a farm road, in the northwest corner of the junction, at the Beaverdam Church, in the front yard, about 150 feet northwest of a spring on the southeast side of the road, about 100 feet west of a corrugated iron pipe under the road, and at the southeast corner of the T-shaped church building. A standard USC&GS disk stamped "C 123 1935" and set in the top of a concrete post.

ELEVATION: 3026.447 feet or 922.463 meters (T-2)

CHS 180 (TVA, 1942; Johnson County, North Carolina)

Located in the southeast corner of Quadrangle 214 NW. To reach from post office at Butler, drive northeast on Doe Station road two blocks. Turn right on road up Roan Creek. Go 2.0 miles, keep straight ahead on Roan Creek Road. Go 2.5 miles to bridge, cross bridge and keep right. Go 1.9 miles to road crossing railroad. Leave car and walk 800 feet east along railroad and turn right, due south up very steep slope to high point on east-west ridge. Station is 10 feet north from highest point on ridge, 2.89 feet southeast from triangular blaze at base of 20-inch pine. A 1- by 1-inch angle iron.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,204,364.9; Y = 751,563.1 (T-4)

CHS 181 (TVA, 1942; Johnson County, Tennessee)

Located in hollow south of Little Dry Run Mountain in the northwest central portion of Quadrangle 214. To reach from Butler Post Office, drive north-east two blocks, turn right on road up Roan Creek, toward Doe Station. Go 2.0 miles to forks of road and small store. Turn right at road forks on road up Little Dry Run. Go (passing midway church and Bradley school) 2.85 miles to crossroads. Leave car and walk due east approximately 150 feet to point on small knoll in apple orchard. A 1- by 1-inch angle iron 150 feet north of house, driven flush with ground.

Reference Mark 1: 31.57 feet S 23° W to tack in apple tree.

Reference Mark 2: 25.30 feet N 67° W to tack in apple tree.

Reference Mark 3: 37.30 feet N 12° W to tack in apple tree.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,198,353.4; Y = 741,239.0 (T-4)

CHS 182 (TVA, 1942; Johnson County, Tennessee)

Located in west central part of Quadrangle 214. To reach from post office at Butler, drive northeast along Main Street 0.2 miles. Turn right and follow Roan Creek road 2.0 miles to crossroads. Turn right, going just left of small store going up Little Dry Run. Go 0.9 miles to Bradley School, turn right at Y-road at school, continue on road 0.6 miles to large white house. From house go west 100 feet to farm (sided road). Walk due north along road approximately 800 feet to top of small knoll. Continue on following high point approximately 300 feet to clump of old dead stumps and station. A 1- by 1-inch angle iron.

Reference Mark 1: 8.75 feet N 69° E to tack in stump.

Reference Mark 2: 19.35 feet S 64° W to tack in stump.

Reference Mark 3: 40.90 feet S 55° E to tack in stump.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,191,031.2; Y = 734,730.7 (T-4)

CHS 183 (TVA, 1942; Carter County, Tennessee)

Located on west edge of Quadrangle 214 SW. To reach from post office at Butler, drive south on Elizabethon Highway 0.5 miles to Y-road and Gulf Service Station. Turn left on Elk Mills School road (up Elk River). Go 7.0 miles to Y-road intersection just northwest of Elk Mills School. Turn right and go 0.1 miles to Y-road. Turn right, follow very poor farm road, 0.6 miles, and end of car travel. Continue on 300 feet to top of ridge and gap. Follow trail north 600 feet to another gap and large evergreen tree at intersection of fences. Turn right and follow fence and woods line 800 feet to top of ridge. Continue through saddle and to next high point and station. A 1- by 1-inch angle iron.

Reference Mark 1: N 82° E to tack in 2-inch hickory.

Reference Mark 2: N 23° W to tack in 4-inch hickory.

Reference Mark 3: N 89° W to tack in 2-inch hickory.

NOTE: Description applies to conditions existing at the time of the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,178,786.4; Y = 710,783.1 (T-4)

CHS 188 (TVA, 1942; Johnson County, Tennessee)

Located in the west central portion of Quadrangle 214 SW. To reach from Butler, drive northeast on Main Street 0.2 miles. Turn right and follow Roan Creek road 2.0 miles. Turn right, going just left of store, going up Little Dry Run. Go 0.9 miles to Bradley School. Turn right at Y-road at Bradley School, go 1.5 miles to small road to right. Leave car and walk east along trail approximately 3000 feet to west edge of woods. Continue east along top of ridge and woods line approximately 1000 feet to clump of apple trees. A 1- by 1-inch angle iron.

Reference Mark 1: 60.54 feet S 72° E to tack in large chestnut stump.

Reference Mark 2: 46.12 feet N 33° W to tack in 4-inch peach tree.

Reference Mark 3: 50.77 feet N 83° W to tack in 2-inch peach tree.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,193,415.4; Y = 731,594.2 (T-4)

CHS 193 (USC&GS, 1934; Johnson County, Tennessee)

Located 3-1/2 miles north-northwest of Mountain City, 5 feet above and 39.7 feet from center line on east edge of right-of-way of U. S. Route 421, at vertex of hairpin curve on southwest slope of Iron Mountain, 6.5 miles eastward from junction with State Highway 91. Station is 19.1 feet south of point where road enters highway, 84.5 feet from south end post of guard rail on downward side, 65.7 feet from east end post of guard rail on upward side, and 18.4 feet north of 6-inch, blazed chestnut tree. To reach from courthouse in Mountain City, go west 5.2 miles on Route 421 (or 0.9 mile beyond Unaka National Forest entrance sign) to sharp curve to right, wood T-road to left, 6-inch blazed chestnut tree, and station site. Surface mark is a standard triangulation station mark set in the top of a square block or post of concrete.

Underground mark is a block of concrete 3 feet below the ground containing at the center of its upper surface a standard disk triangulation station mark.

Reference and azimuth marks are standard disk reference marks with the arrows pointing toward the station each set at the center of the top of a square block or post of concrete.

Reference mark 1 is in second growth hardwood and brush, 16.4 feet from 4-inch chestnut tree, and 5 feet below and 35.64 feet from station in geodetic azimuth 314°31'.

Reference mark 2 is 6 feet below and 42.6 feet from center line of highway on edge of side-slope fill, 12.4 feet from 3-inch dogwood tree on edge of woods, 33.6 feet from east end post of guard rail on uphill side, and 8 feet below and 37.13 feet from station in geodetic azimuth 64°29'.

Azimuth mark is on edge of woods, 25 feet above and 36.7 feet (slope distance) north of center line of Route 421, 19.5 feet southeast of 4-inch pine tree, 16.6 feet west of 4-inch pine tree, 400 yards from station.

GEODETIC POSITION: Lat. = 36°29'39.090"; Long. = 81°51'57.701" (C-2)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Shady	115°56'00.6"	295°55'17.9"	3.297467	1.2
Bald Knob (USGS)	260 47 06.9	80 52 14.6	4.115310	8.1
Trout	296 48 49.5	116 56 44.6	4.348904	13.9
Azimuth Mark	190 42 57			

GRID POSITION (Tennessee): X = 3,214,889.16; Y = 790,887.44 (C-2)
Grid Azimuth to azimuth mark: 188°17'44".
ELEVATION: 3189.272 feet or 972.092 meters (C-2)

D 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.2 miles northwest along a county road from the Beaverdam Church at Reese, at the south corner of a road intersection, about 135 feet north of a 12-inch flat-topped pine tree near a rail fence on the Rube Creek road, 90 feet south of a 12-inch poplar in the north corner of the crossroads, 90 feet north-west of a 14-inch forked locust tree in the south corner of the crossroads, 50 feet southwest of a 24-inch chestnut tree in the east corner of the crossroads, 30 feet west of a 46-inch hollow stump, 20 feet southwest of the crossroads, and in brush near the north gatepost at the crossing. A standard USC&GS disk stamped "D 123 1935" and set in the top of a concrete post.

ELEVATION: 3380.223 feet or 1030.294 meters (T-2)

DOE (USC&GS, 1934; Johnson County, Tennessee)

Located about 4-1/2 miles southwest of Mountain City, 1-3/4 miles south-southeast of Little Doe, 1-3/4 miles northwest of Vaughtsville, on highest part at south end of highest ridge of Doe Mountain on what is known locally as "Snake Den Ridge", 21.6 feet east of 7-inch triangular blazed tree, 15 feet east of center of Civilian Conservation Corps trail, and 12 feet southwest of 10-inch triangle blazed tree. To reach from junction of Routes 421 and 67 in Mountain City, go west 4.6 miles on Route 67 to small unpainted church on left and three mail boxes on right, turn left and go 0.7 mile to home of John Nelson at end of truck trail, follow wagon road from house about 275 yards, turn left on to trail through woods to creek bed, follow creek bed and blazed trail to top of ridge and above mentioned trail, turn left onto trail and go about 0.3 mile to triangle-blazed trees and station site. Total walk about 2.5 miles. Surface mark is a standard disk triangulation station mark wedged in a drill hole in a boulder.

Reference marks are standard disk reference marks with the arrows pointing toward the station, each set in concrete in a depression in a boulder.

Reference mark 1 is 18 feet east of center of trail and 48.70 feet from station in geodetic azimuth 174°56'.

Reference mark 2 is 1.5 feet northeast of 14-inch chestnut oak and 35.54 feet from station in geodetic azimuth 316°55'.

Report on Condition (TVA, 1937): A 60-foot steel tower was erected and centered over station. Tablet raised 2 feet and set in concrete block. Azimuth and reference points check.

GEODETIC POSITION: Lat. = 36°25'36.098"; Long. = 81°52'00.482" (C-2)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Shady	168°24'19.8"	348°23'38.8"	3.931023	5.3
Bald Knob (USGS)	233 29 41.7	53 34 50.8	4.206848	10.0
Trout	277 21 35.9	97 29 32.3	4.304601	12.5

North red brick chimney of two-story house 269 33 33

GRID POSITION (Tennessee): X = 3,215,699.75; Y = 766,326.51 (C-2)
ELEVATION: 3889 feet (T-5)

E 103 (USC&GS, 1935; Johnson County, Tennessee)

Located at Mountain City, about 13 yards north of the north end of the Southern Railway station, about 47 yards south of the center of a dirt-road crossing, 38.5 feet west of the west rail of the main track and about level with the track. A standard USC&GS disk stamped "E 103 1935" and set in the top of a concrete post.

ELEVATION: 2410.592 feet or 734.750 meters (C-2)

E 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.2 miles south along the Beaverdam road from the Beaverdam Church at Reese, on the Riley Wilson property, about 425 feet northwest of a two-story farmhouse, about 200 feet north of a log barn, about 200 feet north of a fork in the road, about 110 feet northeast of a 36-inch leaning chestnut tree, on the west side of the road, 65.9 feet north of a pole, 16.2 feet north of an 8-inch twin stump, 7.6 feet west of a forked stump, at the toe of a road fill and in a tall sharp-topped boulder. A standard USC&GS disk stamped "E 123 1935".

ELEVATION: 2900.503 feet or 884.075 meters (T-2)

F 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1.0 mile northeast along the Southern Railway (abandoned) from Doe Station (Doeville Post Office), on property of A. F. Snyder, 1.4 miles northeast of bridge over Roan Creek arm of Watauga lake, set in fence line between orchard and hog lot northeast of 2-story frame house, about 45 yards north of the two-story frame house, about 24 yards southwest of a power-transmission line pole 122, about 23 feet northeast of the southeast rail, at the center of a dirt road crossing, 10.5 feet southeast of the southeast rail and about level with the track, 192 feet northwest of center line paved road, 109 feet northeast of northeast corner main part 2-story frame house, 43 feet northeast of northeast corner outhouse, and 23 feet east of center line farm lane. A standard USC&GS disk stamped "F 104 1935" and set in the top of a concrete post. Steel post with control marker sign set 1.0 foot east of monument.

ELEVATION: 2001.059 feet or 609.924 meters (C-2)

F 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.4 miles east along the Beaverdam road from the church at Bethel, at the junction of the Sweetwater county road, on the J. G. Walker property, about 300 feet northeast of a single span wooden bridge, about 100 feet northeast of a 60-inch white oak tree, 100 feet southwest of a 60-inch forked maple tree, on the west side of the road, 80 feet north of the road junction, 80 feet northwest of a two-story store and dwelling, at a general store, 29.8 feet northwest of the southwest corner of the east-west part of the store and in a fence line. A standard disk stamped "F 123 1935" and set in the top of a concrete post.

ELEVATION: 2760.382 feet or 841.366 meters (T-2)

FR 6 (USGS, 1934; Watauga County, North Carolina)

Located 2.2 miles southeast of Beech Creek, 30 feet south of center of temporary State Highway 603, 46 feet east of small drain, and 10 feet above level of

road. A standard USGS tablet set in top of large boulder and stamped "728 FH 6 1934, painted U.S.B.M. 2728".

Reference mark is 785 feet S 70° E of tablet, 36 feet northeast of center of temporary State Highway 603, 6 feet below level of road on highest point of 7- by 6-foot boulder; a chiseled square 12.27 feet lower than the tablet.
ELEVATION: 2726.70 feet (G-3)

FH 8 (USGS, 1934; Watauga County, North Carolina)

Located 5.2 miles southeast of Beech Creek, 25 feet southwest of intersection of Laurel Creek road, and temporary State Highway 603. A standard USGS bronze tablet set in rock outcrop and stamped "2605 FH 8 1934", painted "USM 2604.6".

ELEVATION: 2603.71 feet (G-3)

FH 11 (USGS, 1934; Watauga County, North Carolina)

Located 2.2 miles northwest of Vilas, 54 feet northwest of center of U. S. Highway 421 and State Highway 60, 36 feet southwest of south corner of Sugar Grove Post Office. A standard USGS bronze tablet set in southwest abutment at southeast end of steel bridge over Cove Creek, and stamped "2677 FH 11 1934", painted "USM 2676.8".

Reference mark is 480 feet south of tablet, 15 feet southeast of center of U. S. Highway 421, and North Carolina Highway 60 on rock outcrop; a chiseled square 12.35 feet higher than the tablet.
ELEVATION: 2675.92 feet (G-3)

G 104 (USCGS, 1935; Johnson County, Tennessee)

Located about 2.7 miles east along the Southern Railway (abandoned) from Doe Station (Doeville Post Office), about 25 yards southwest of a road paralleling the track, at the crossing of a dirt road leading west to Dyson Grove Church, 28 feet north of the center of the crossing, 27 feet northeast of the northeast rail, 15.7 feet northwest of the center line of the road and about level with the track. A standard USCGS disk stamped "G 104 1935" and set in the top of a concrete post.

ELEVATION: 2081.449 feet or 634.427 meters (C-2)

G 123 (USCGS, 1935; Watauga County, North Carolina)

Located about 0.9 mile northeast along the Mast road from Sweetwater, at Forest Grove, about 0.1 mile northeast of a schoolhouse, near the junction of the Grove Creek farm road, about 150 feet south of a two-story farmhouse, on the north-west side of the road, 41.8 feet south of the northeast corner of an old store building, 27.7 feet northeast of the southeast corner, 15 feet north of the junction of a driveway leading to the farmhouse and near a southeast fence corner. A standard USCGS disk stamped "G 123 1935" and set in the top of a concrete post.
ELEVATION: 2879.499 feet or 877.673 meters (T-2)

GAGE RM 1 (TVA, 1942; Johnson County, Tennessee)

Located on left bank of Watauga River, 0.6 miles downstream from North Carolina-Tennessee State line, 1.9 miles downstream from Stone Mountain Branch, 2.1 miles upstream from Pine Bottom Branch, 4.0 miles upstream from head of Wagner Island, 4.9 miles upstream from gaging station at Stump Knob, 7-3/4 miles upstream from Elk Creek, 9-1/4 miles upstream from Butler, Johnson County, 1.0 feet shoreward from gage well, 12.28 feet above gage zero. A standard TVA tablet stamped "GAGE RM 1" and set in concrete 2.5 feet below elevation of cleanout door.

ELEVATION: 2072.85 feet (T-3)

GAGE RM 2 (TVA, 1942; Johnson County, Tennessee)

Located on left bank of Watauga River, 0.6 miles downstream from North Carolina-Tennessee State line, 1.9 miles downstream from Stone Mountain Branch, 2.1 miles upstream from Pine Bottom Branch, 4.0 miles upstream from head of Wagner Island, 4.9 miles upstream from gaging station at Stump Knob, 7-3/4 miles upstream from Elk Creek, 9-1/4 miles upstream from Butler, Johnson County, 28 feet downstream from downstream streamward corner of gage well, 2.34 feet above zero of gage. A standard TVA tablet stamped "GAGE RM 2" and set in rock ledge.

ELEVATION: 2062.91 feet (T-3)

GAGE RM 1 (TVA, 1942; Johnson County, Tennessee)

Located on right bank of Roan Creek, on Butler-Neva road, 1000 feet east of Fritz School, 1.1 miles downstream from Avery Branch, 1.7 miles southwest of Neva, Johnson County, 2.2 miles upstream from Hopper Creek, 9.7 miles upstream from station at Butler, 5.9 miles northeast of Butler and 10.4 miles upstream from mouth, 12 feet streamward from upstream, streamward corner of gage well, 4.29 feet above zero of gage. A chiseled square on top of concrete gage post.

ELEVATION: 2107.40 feet (T-3)

GAGE RM 2 (TVA, 1942; Johnson County, Tennessee)

Located on right bank of Roan Creek, on Butler-Neva road, 1000 feet east of Fritz School, 1.1 miles downstream from Avery Branch, 1.7 miles southwest of Neva, 2.2 miles upstream from Hopper Creek, 9.7 miles upstream from station at Butler, 5.9 miles northeast of Butler and 10.4 miles upstream from mouth, at ground level and 1.5 feet downstream from gage well, 3.67 feet above zero of gage. A chiseled square on concrete platform on downstream side of gage well.

ELEVATION: 2106.78 feet (T-3)

GAGE RM 3 (TVA, 1942; Johnson County, Tennessee)

Located on right bank of Roan Creek, on Butler-Neva road, 1000 feet east of Fritz School, 1.1 miles downstream from Avery Branch, 1.7 miles southwest of Neva, 2.2 miles upstream from Hopper Creek, 9.7 miles upstream from station at Butler, 5.9 miles northeast of Butler and 10.4 miles upstream from mouth, and 15.56 feet above zero of gage. Top of anchor bolt of the downstream leg of cableway A-frame.

ELEVATION: 2118.67 feet (T-3)

GREENE (USCGS, 1934; Watauga County, North Carolina)

Located 4-1/2 miles northwest of Sugar Grove, 1-1/2 miles west of Sweetwater Post Office, in Beaver Dam Township, on land owned by D. F. Greene, opposite vacant 2-story house, 0.15 mile north along road from Edmiston Perry's store, 300 feet south along road from crossroad and mail box 45B, 85 feet south of point where telephone line diverges from road and crosses field, 12 feet above and 22.6 feet west of center line of road, 6.0 feet inside fence line. To reach from junction of U. S. Route 421 and North Carolina Route 603 at post office in Sugar Grove, go west across bridge 0.05 miles on Route 603, turn right off Route 603 where highway turns to left and go 0.4 mile to T-road to right, follow straight ahead up hollow 4.65 miles across George Gap to fork at old store on left, follow left fork across bridge and go 0.2 mile to fork at store with

Escolene pump, follow left fork 1.6 miles to fork at Bethel Baptist Church on right, follow left fork 0.15 mile to fork at white school on left, follow main right fork 0.65 mile to crossroad at small plank bridge and mail box 45B at home of Mr. Greene 100 yards to right, and continue 300 feet on main gravel road to station site. Surface mark is a standard triangulation station mark set in the top of a square block or post of concrete. Underground mark is a block of concrete 3 feet below the ground containing at the center of its upper surface a standard disk triangulation station mark.

Reference marks are standard disk reference marks with arrows pointing toward the station each set at the center of the top of a square block or post of concrete.

Reference mark 1 is 8 feet below and 23.1 feet east of center line of road, in cultivated field, and 20 feet below and 57.20 feet (slope distance) from station in geodetic azimuth 285°08'.

Reference mark 2 is 10 feet above and 24.1 feet (slope distance) from center line of road, 4.2 feet inside fence line, and 4 feet below and 95.95 feet from station in geodetic azimuth 354°37'.

Azimuth mark is a standard disk reference mark with the arrow pointing toward the station set in a concrete cylinder, in yard of Bethel Baptist Church, 74.9 feet from east corner of church, 58.7 feet from north corner, 1 foot inside fence line, 22.2 feet from 3-inch shade tree on fence line, 82.6 feet from center of intersection of roads in front of church, and 0.75 mile from station.

GEODETIC POSITION: Lat. = 36°17'25.527"; Long. = 81°51'18.250" (C-2)

To Station Azimuth Back Azimuth Distance

Stone 141°04'04.0" 321°03'13.2" 3.532359 2.1

Block of Rich 258°56'17.4" 79 01 12.1 4.102192 7.9

(USGS) Azimuth Mark 229 30 22

Bethel Baptist Church, left edge cornice

on chimney 228 33 39 0.75

GRID POSITION (Tennessee): X = 3,221,248.58; Y = 716,906.30 (C-2)

Grid Azimuth to Azimuth mark: 227°04'46".

ELEVATION: 2715.159 feet or 827.582 meters (T-2)

GREENE AZ MK (USCGS, 1934; Watauga County, North Carolina)

For description, see triangulation station GREENE.

ELEVATION: 2763.272 feet or 842.247 meters (T-2)

GREENE RM 2 (USCGS, 1934; Watauga County, North Carolina)

For description, see triangulation station GREENE.

ELEVATION: 2711.963 feet or 826.608 meters (T-2)

GREGG (USGS, 1934; Johnson County, Tennessee)

Located on the property of J. H. Gregg on partially open top about 1.9 miles southeast of Butler and about 1.1 miles east and north of junction of Elk Creek and Watauga River. To reach from Elizabethton, go to Butler Post Office, take road to Big Dry Run 2.9 miles, park car and walk about 0.5 mile southeast to station, 34.95 feet N 35° E from 40-inch water oak. A standard USGS tablet stamped "GREGG 1934".

Reference Mark 1: 12.6 feet S 25° E to drill hole in rock.

Reference Mark 2: 38.6 feet S 63° W to drill hole in rock.

NOTE: This description applies to conditions existing before the construction of Watauga Dam.

GEODETIC POSITION: Lat. = 36°19'09.324"; Long. = 81°57'56.811" (G-3)

To Station Azimuth Back Azimuth Distance

Pond 69°40'39.5" 249°36'19.4" 4.067777 7.3

Old Doe Fire Tower 190 33 12.6 10 33 51.8 3.954212 5.6

Buck Ridge 348 38 27.6 168 38 58.0 3.613634 4.0

GRID POSITION (Tennessee): X = 3,188,215.1; Y = 726,032.5 (G-3)

ELEVATION: 2514 feet (T-5)

H 104 (USCGS, 1935; Johnson County, Tennessee)

Located about 0.8 mile southwest along the Southern Railway from the station at Neva, about 5.1 miles east of Doe Station (Doeville Post Office), 31.8 feet north of milepost 120, 15.8 feet northwest of the northwest rail, 23-1/2 feet southeast of the center line of a road paralleling the track and about level with the track. A standard USCGS disk stamped "H 104 1935" and set in the top of a concrete post.

ELEVATION: 2154.458 feet or 656.680 meters (C-2)

H 111 (USCGS, 1935; Johnson County, Tennessee)

Located about 1.4 miles southeast along the Dry Hill road from the junction of a county road about 1 mile east of Butler, on the A. B. Greenwell property, about 500 feet west of a one-story farmhouse, about 225 feet southwest of a red top barn, 100 feet southwest of a small plank barn with a lean-to garage, 90 feet south of a 1-1/2 story farmhouse, at the junction of a driveway to the farmyard, 27 feet northeast of the center line of the road, 21.5 feet southeast of the center line of the driveway, 10 feet southeast of a pole and about level with the road. From Gregg or Wagner Island Bridge over Watauga River Embayment of Watauga Lake, go northward along blacktop road a distance of 2.1 miles to T-road intersection. Turn left and go down Dry Hill road 1.0 mile to monument on right (north) side of road, 2 feet west of corner fence post, 14 feet east of center line private driveway, 72 feet S 05° E of southeast corner 1-story frame dwelling, 84 feet north of center line county road. A standard USCGS disk stamped "H 111 1935" and set in the top of a concrete post, projecting about 3 inches above ground. Steel post with control marker sign set 2.0 feet north of monument.
ELEVATION: 2023.628 feet or 616.803 meters (C & T-2)

H 123 (USCGS, 1935; Watauga County, North Carolina)

Located about 1.9 miles east along the Mast road from Sweetwater, on the top of Lost Ridge, at the junction of the Lost Ridge farm road, about 300 feet northwest of a small locust grove, on the west side of the road, 30 feet east of a gap in a rail fence, 17.3 feet south of a 12-inch ash tree at the fence corner, 20 feet southwest of the road junction, 10 feet west of a gate in a plank fence, between the fence corner and the two gates, and in a field. A standard USCGS disk stamped "H 123 1935" and set in the top of a concrete post.
ELEVATION: 3454.721 feet or 1053.001 meters (T-2)

BME 65 (TVA, 1937; Johnson County, Tennessee)

Located on west edge of Quadrangle 214 NW. To reach from Doeville, drive northwest on State Highway 67 to T-road intersection just beyond Doeville. Turn left and proceed 0.8 mile. Turn right on farm road and proceed 1.2 miles to forks of several trails. Proceed on foot up hill at left in southeast direction 2000 feet to south end of ridge, 12.0 feet N 62° W of 15-inch pine, 6.1 feet N 44° E

of 4-inch chestnut (dead), and 13.3 feet S 6° W of 3-inch oak. Station is a 1- by 1-inch angle iron stamped "HMH 65" at upper end of cluster of pines.
GRID POSITION (Tennessee): X = 3,179,483.8; Y = 758,249.1 (T-4)
ELEVATION: 2804 feet (T-5)

HMH 67 (TVA, 1937; Johnson County, Tennessee)
Located in northeast portion of Quadrangle 214 SW. To reach from Butler, go 0.8 mile to T-road intersection. Turn right and proceed (over bridge) 3.0 miles to T-road intersection. Turn left and proceed 3.7 miles to creek just beyond private driveway to right. Proceed on foot up hill and field at left to top of hill with scattered trees. Station is in clearing at break in slope on southeast side of top of ridge 34.0 feet S 40° E of 12-inch locust, 39.0 feet S 8° W of 4-inch hickory, and 58.4 feet S 58° W of 14-inch three forked locust. A 1- by 1-inch angle iron stamped "TVA HMH 67".
NOTE: Description applies to conditions existing before the construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,207,302.3; Y = 734,957.6 (T-4)
ELEVATION: 2705 feet (T-5)

HMH 68 (TVA, 1937; Johnson County, Tennessee)
Located in southeast portion of Quad 214 NW. To reach from Butler, drive northeast on gravel road 4.6 miles to Doeville Post Office at T-road. Turn right and proceed 8.9 miles to T-road intersection. Turn left and proceed 1.5 miles to Y-road. Turn left 0.3 mile to farm road and turn left again and proceed 0.8 mile to end of road at trail in laurel thicket. Proceed on foot along trail 6000 feet to field at right. Proceed up hill and field to right in northeasterly direction along hogback to peak 5000 feet, 10.1 feet N 32° E of 10-inch dead oak, 10.8 feet S 15° W of 14-inch dead chestnut, and 11.9 feet N 10° W of 18-inch dead chestnut. Station is a 1- by 1-inch angle iron stamped "HMH 68" on top of peak at highest point.
NOTE: Description applies to conditions existing before the construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,207,280.6; Y = 759,097.2 (T-4)
ELEVATION: 3552 feet (T-5)

HMH 69 (TVA, 1937; Johnson County, Tennessee)
Located in the southwest portion of Quadrangle 214 NE. To reach from Showns, drive southwest (about 2 miles south of Mountain City) along gravel road 3 miles to Vaughtsville Post Office near Maymead Railroad signal, in open hay field across road from church, about 200 feet north of road and 250 feet southwest of house. A 1- by 1-inch angle iron stamped "TVA HMH 69".
GRID POSITION (Tennessee): X = 3,224,061.1; Y = 762,150.2 (T-4)
ELEVATION: 2225 feet (T-5)

HMH 70 (TVA, 1937; Johnson County, Tennessee)
Located in southeast portion of Quadrangle 214 NE. To reach from Mountain City, drive south on U. S. Highway 421 about 2 miles to crossroads at Showns. Continue south on paved road 0.6 mile to Y-road intersection. Turn right on gravel road and proceed 1.8 miles to T-road intersection and continue on 2.7 miles in all to end of road at barn, proceed on foot up hill at right 1000 feet to edge of cultivated field above small patch of woods. Station is at lower edge of cultivated field on north slope of bare hill about 40 feet down hill from 24-inch leaning forked locust tree, 35.2 feet N 19° W of 24-inch leaning locust, 56.0 feet N 34° E of 36-inch burned stump, and 6.6 feet S 74° E of 1-inch hickory. A 1- by 1-inch angle iron stamped "TVA HMH 70".
GRID POSITION (Tennessee): X = 3,237,410.8; Y = 760,901.0 (T-4)
ELEVATION: 2987 feet (T-5)

HMH 71 (TVA, 1937; Johnson County, Tennessee)
Located on north edge of Quadrangle 214 SE. To reach from Neva, go southeast across bridge and 2.6 miles to edge of woods near old house. Proceed on foot to left about 500 feet to angle iron. Station is about 200 feet southeast of old house, 100 feet west of fence line intersection and 2 feet south of fence, 69.8 feet N 23° E of 10-inch forked apple, 5.5 feet N 64° E of fence post, and 4.9 feet S 43° W of fence post. A 1- by 1-inch angle iron stamped "TVA HMH 71".
GRID POSITION (Tennessee): X = 3,224,787.4; Y = 745,409.1 (T-4)
ELEVATION: 2628 feet (T-5)

HMH 72 (TVA, 1937; Johnson County, Tennessee)
Located on north edge of Quadrangle 214 SE. To reach from Maymead, drive southeast 2.6 miles to T-road intersection. Turn left and proceed 1.7 miles to Y-road at logging camp. Turn left and proceed up mountain road 0.7 miles to wooden bridge at sharp turn to right. Proceed on foot on trail about 800 feet up branch, then up hill to right 1200 feet to old field on top of ridge. Station is on top of ridge about 20 feet from sharp break in slope near east edge of field, 18.5 feet N 55° W of 24-inch dead chestnut snag, 29.7 feet S 14° W of 24-inch oak stump, and 23.8 feet N 51° E of 24-inch chestnut stump. A 1- by 1-inch angle iron stamped "TVA HMH 72", 0.6 foot above ground.
GRID POSITION (Tennessee): X = 3,239,636.7; Y = 746,577.2 (T-4)
ELEVATION: 4302 feet (T-5)

J 104 (USC&GS, 1935; Johnson County, Tennessee)
Located at Neva, on the Southern Railway, about 34 yards northeast of the northeast corner of the station, 45 feet west of bridge 120.9, at a road crossing, 26 feet southwest of the center line of the road, 11.7 feet northwest of the northwest rail, and about level with the track. A standard USC&GS disk stamped "J 104 1935" and set in the top of a concrete post.
ELEVATION: 2165.238 feet or 659.966 meters (C & T-2)

J 123 (USC&GS, 1935; Watauga County, North Carolina)
Located about 1.0 mile northwest along the Laurel Branch road from Mast, about 200 feet west of a wooden bridge, about 175 feet northwest of a one-story farmhouse, on the southwest side of the road, 66 feet west of the northwest corner of a one-story farm building, 21.2 feet southeast of the northeast corner of a barn, 15 feet southwest of a gate, in the northwest and southeast fence line, and directly in front of the gate to the farmyard. A standard disk stamped "J 123 1935" and set in the top of a concrete monument.
ELEVATION: 2901.471 feet or 884.370 meters (C & T-2)

JM 31 (TVA, 1949; Carter County, Tennessee)
Located 0.9 mile northwest of new Elk Mills bridge and on left side Elk River Embayment, on the Elk Mills-Butler road right of way. To reach from highway junction at Hampton, go 10.1 miles northeast along Highway 67 to blacktop road right, turn right and go 6.9 miles toward Elk Mills to mark. A standard TVA tablet stamped "JM 31 1949" and set in center line inlet headwall concrete box culvert.
ELEVATION: 1962.6 feet (T-4)

JM 32 (TVA, 1949; Carter County, Tennessee)
Located between Elk Mills school and New Elk Mills bridge, on left side Elk River Embayment, on Elk Mills-Butler road right of way. A standard TVA tablet stamped "JM 32 1949" and set in center line inlet headwall concrete box culvert.
ELEVATION: 1978.6 feet (T-4)

JM 33 (TVA, 1949; Carter County, Tennessee)
Located 0.5 mile northeast of new bridge across head of Elk River Embayment, on the Elk Mills-Buntontown road right of way. A standard TVA tablet stamped "JM 33 1949" and set in center line inlet headwall concrete box culvert.
ELEVATION: 2184.6 feet (T-4)

JM 34 (TVA, 1949; Johnson County, Tennessee)
Located at Buntontown 1.8 miles northeast of new bridge across head of Elk River Embayment, on Elk Mills-Buntontown road right of way. A standard TVA tablet stamped "JM 34 1949" and set in center line inlet headwall concrete box culvert over Buntontown Creek near T-road to northwest.
ELEVATION: 2279.4 feet (T-4)

JM 35 (TVA, 1949; Johnson County, Tennessee)
Located 2.5 miles southwest of "Gregg" or "Wagner Island" bridge, 1.5 miles southwest of large concrete culvert over Gregg Branch, on Buntontown-Gregg Branch road right of way. A standard TVA tablet stamped "JM 35 1949" and set in center line inlet headwall concrete box culvert.
ELEVATION: 2391.2 feet (T-4)

JM 36 (TVA, 1949; Johnson County, Tennessee)
Located 1.0 mile southwest of "Gregg" or "Wagner Island" bridge, 3.8 miles northeast of new Elk Mills bridge over head of Elk River Embayment, on Buntontown-Gregg Branch road right of way. A standard TVA tablet stamped "JM 36 1949" and set in center line inlet headwall concrete box culvert over Gregg Branch.
ELEVATION: 1972.8 feet (T-4)

JM 37 (TVA, 1949; Johnson County, Tennessee)
Located on left side Watauga River Embayment of Watauga Lake, 0.45 mile south of Gregg's store or Wagner Island Bridge over lake, on TVA relocated road from Wagner Island bridge along left side lake toward head of lake, on property of M. S. Burton. To reach from Gregg's store at Wagner Island bridge, go south along road along west side of lake 0.45 miles to mark. A standard TVA tablet stamped "JM 37 1949" and set in inlet headwall pipe culvert near Burton's barn.
ELEVATION: 1984.9 feet (T-4)

JM 38 (TVA, 1949; Johnson County, Tennessee)
Located on "Wagner Island" or "Gregg" bridge on the Buntontown-Big Dry Run road right of way. A standard TVA tablet stamped "JM 38 1949" and set on curb northeast corner of abutment #2.
ELEVATION: 1990.7 feet (T-4)

JM 39 (TVA, 1949; Johnson County, Tennessee)
Located 0.4 mile southeast of "Wagner Island" or "Gregg" bridge and on right side lake, on Buntontown-Draught Creek road right of way, on right side Watauga River Embayment. A standard TVA tablet stamped "JM 39 1949" and set in center line inlet headwall concrete box culvert.
ELEVATION: 2004.0 feet (T-4)

JM 40 (TVA, 1949; Johnson County, Tennessee)
Located 1.1 miles southeast of large bridge "Gregg" or "Wagner Island" bridge over Watauga River arm of lake, on right side of lake, on Buntontown-Draught Creek road right of way, on low water bridge across Draught Creek. A standard TVA tablet stamped "JM 40 1949" and set in center line inlet end pipe headwall culvert.
ELEVATION: 1974.1 feet (T-4)

JM 41 (TVA, 1949; Johnson County, Tennessee)
Located 0.8 mile northeast of "Wagner Island" or "Gregg" bridge, 3.3 miles southeast of Bradley school, on Buntontown-Big Dry Run road right of way, over Big Dry Run Creek. A standard TVA tablet stamped "JM 41 1949" and set in center line inlet end concrete box culvert.
ELEVATION: 1974.8 feet (T-4)

JM 42 (TVA, 1949; Johnson County, Tennessee)
Located 2.3 miles south of Bradley School, at junction of Sugar Grove Church road and Bradley school-Wagner Island bridge road, and 1.8 miles northwest of Wagner Island Bridge. A standard TVA tablet stamped "JM 42 1949" and set in center line inlet end concrete box culvert under side road.
ELEVATION: 2050.2 feet (T-4)

JM 43 (TVA, 1949; Johnson County, Tennessee)
Located 2.1 miles south of Bradley school, 2.0 miles north of "Gregg" or "Wagner Island" bridge on Bradley school-Wagner Island bridge road right-of-way. A standard TVA tablet stamped "JM 43 1949" and set in center line inlet end concrete box culvert.
ELEVATION: 2123.0 feet (T-4)

JM 44 (TVA, 1949; Johnson County, Tennessee)
Located on right bank of Watauga Lake. To reach from "Wagner Island" bridge over lake, go northward on blacktop road toward Bradley School, a distance of 2.1 miles to T-road intersection, turn left and go down old "Dry Hill" county road toward lake 1.5 miles to road fork, take left fork and go 0.3 mile to mark, on property of T. L. Culver. A standard TVA tablet stamped "JM 44 1949" and set in inlet end box culvert.
ELEVATION: 2001.2 feet (T-4)

JM 45 (TVA, 1949; Johnson County, Tennessee)
Located 1.4 miles south of Bradley school, 2.7 miles north of "Wagner Island" or "Gregg" bridge, on Bradley school-Wagner Island bridge road right of way. A standard TVA tablet stamped "JM 45 1949" and set in center line inlet end pipe head wall.
ELEVATION: 2263.3 feet (T-4)

JM 46 (TVA, 1949; Johnson County, Tennessee)
Located 1.0 mile south of Bradley school, 3.1 miles north of "Gregg" or "Wagner Island" bridge, on Bradley school-Wagner Island bridge road right of way. A standard TVA tablet stamped "JM 46 1949" and set in center line inlet end concrete box culvert.
ELEVATION: 2318.3 feet (T-4)

JM 47 (TVA, 1949; Johnson County, Tennessee)

Located 0.45 mile south of Bradley school, 3.6 miles north of "Gregg" or "Wagner Island" bridge, on Bradley school-Wagner Island bridge road right of way. A standard TVA tablet stamped "JM 47 1949" and set in center line inlet end concrete box culvert.

ELEVATION: 2164.5 feet (T-4)

JM 48 (TVA, 1949; Johnson County, Tennessee)

Located near Bradley School, 3.0 miles south of Roan Creek TVA bridge, on Roan Creek-Bradley school road right of way over Little Dry Run Creek. A standard TVA tablet stamped "JM 48 1949" and set in center line inlet end concrete box culvert.

ELEVATION: 1998.6 feet (T-4)

JM 49 (TVA, 1949; Johnson County, Tennessee)

Located 1.5 miles southwest of Roan Creek TVA bridge, 1.4 miles north of Bradley School and across road from Roan Creek Restaurant, on Roan Creek road right of way. A standard TVA tablet stamped "JM 49 1949" and set in center line inlet end headwall pipe concrete culvert.

ELEVATION: 1998.2 feet (T-4)

JM 50 (TVA, 1949; Johnson County, Tennessee)

Located 0.8 mile southwest of Roan Creek TVA bridge, 2.1 miles north of Bradley school, on Roan Creek road right of way. A standard TVA tablet stamped "JM 50 1949" and set in center line inlet end box concrete culvert.

ELEVATION: 1996.2 feet (T-4)

JM 51 (TVA, 1949; Johnson County, Tennessee)

Located at TVA bridge over Roan Creek Embayment of Watauga Lake, on Roan Creek road right of way, on upstream curb southeast corner of abutment #1 of TVA Roan Creek bridge. A standard TVA tablet stamped "JM 51 1949" and set on abutment of bridge.

ELEVATION: 1982.8 feet (T-4)

JM 52 (TVA, 1949; Johnson County, Tennessee)

Located about 1/2 mile northwest of Roan Creek bridge, on Doe Creek-Roan Creek road right of way. A standard TVA tablet stamped "JM 52 1949" and set in center line inlet end box concrete culvert.

ELEVATION: 1985.3 feet (T-4)

JM 53 (TVA, 1949; Johnson County, Tennessee)

Located about 1/4 mile northeast of TVA Roan Creek bridge and on right side of creek, on Roan Creek road right of way. A standard TVA tablet stamped "JM 53 1949" and set in center line inlet end box concrete culvert.

ELEVATION: 2020.6 feet (T-4)

K 104 (USC&GS, 1935; Johnson County, Tennessee)

Located at Maymead, about 0.3 mile southwest along the Southern Railway from the station at a dirt road crossing, about 35 yards west of the entrance to Pleasant Grove Church, 52 feet south of the center line of the road, 33 feet southeast of the southeast rail, 2.8 feet northwest of a fence line, and about 2-1/2 feet lower than the track. A standard USC&GS disk stamped "K 104 1935" and set in the top of a concrete post.

ELEVATION: 2214.805 feet or 675.074 meters (C-2)

K 111 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1.3 miles southeast along the Gregg Branch county road from Dugger bridge, on the Tom Moody property, about 550 feet southwest of two barns on opposite sides of the road near a one-story farmhouse, on the east side of the county road, in a field, 62.4 feet west of a 24-inch twin willow tree on the left bank of Gregg Branch, 60 feet northwest of a 30-inch pine tree on the right bank of the creek, 54.1 feet southwest of a fence corner and 30 feet north of a 3-inch cedar tree. From Tennessee State Highway 159 bridge over Elk River Embayment of Watauga Lake, go eastward along Highway 159 2.6 miles, turn left on gravel road down left side Gregg Branch 0.8 mile to monument. Monument is between road and branch, 2 feet east of right of way fence line and 15 feet east of center line road, about 250 feet south of 1-story frame dwelling. By another route: 0.7 mile south of junction of roads at Blacktop county road crossing Gregg Branch embayment of Watauga Lake. A standard USC&GS disk stamped "K 111 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot east of monument.

ELEVATION: 2093.077 feet or 637.971 meters (C & T-2)

K 123 (USC&GS, 1935; Watauga County, North Carolina)

Located at Mast, at the intersection of the Laurel Branch road and U. S. Highway 421, on the James B. Mast property, about 600 feet northeast of a large two-story farmhouse with three gables, about 250 feet northwest of a two-story store, 30 feet southeast of the road intersection, 29.5 feet northeast of a 14-inch cedar tree, 26.5 feet northwest of a 14-inch cherry tree, and at the northwest corner of a board fence. A standard USC&GS disk stamped "K 123 1935" and set in the top of a concrete post.

ELEVATION: 2766.973 feet or 843.375 meters (C & T-2)

L 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1.0 mile southwest along the Southern Railway from the station at Shouns, about 40 yards southwest of milepost 125, 36.5 feet southeast of a road crossing, 15 feet southeast of the southeast rail, about 15 yards southeast of a road paralleling the track and about 3-1/2 feet lower than the track. A standard USC&GS disk stamped "L 104 1935" and set in the top of a concrete post.

ELEVATION: 2268.030 feet or 691.297 meters (C-2)

L 111 (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.4 miles southeast along the Gregg Branch county road from former site of Dugger Bridge, on the outside of a curve, on the left bank of a small stream, on the southwest side of the road, 80 feet southwest of an 8-inch poplar tree on the northeast side of the road, 27.4 feet northwest of a 4-inch poplar tree on the southwest side of the road, near the upstream end of an old broken wooden bridge, and in a small boulder. A standard USC&GS disk stamped "L 111 1935"

NOTE: Searched for but not recovered, October 1959. Possibly covered by toe of new road fill.

ELEVATION: 2340.461 feet or 713.374 meters (T-2)

L 116 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.9 mile south along the Southern Railway from the station at Mountain City, about 70 yards north of milepost 127, about 28 yards north of

a private road crossing, 6 feet west of the west rail, 15 feet southeast of a pole and about 1 foot lower than the track. A standard USC&GS disk stamped "L 116 1935" and set in the top of a concrete post.

ELEVATION: 2355.149 feet or 717.851 meters (C-2)

L 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.4 miles east along the Beaverdam road from the church at Bethel, at the junction of the Sweetwater road, on the northwest side of the main road, about 125 feet northeast of a single-span timber bridge, on the Donly Hagman property, 90 feet west of a two-story store building and dwelling, 90 feet southeast of a 60-inch white oak tree, 65.5 feet northwest of the northwest corner of a garage, 49.2 feet northwest of the northeast corner of a woodshed, 45 feet west of the junction and in a fence line. A standard USC&GS disk stamped "L 123 1935" and set in the top of a concrete post.

ELEVATION: 2754.302 feet or 839.513 meters (T-2)

L 123 X (USC&GS, 1935; Watauga County, North Carolina)

Located about 1.3 miles southeast along the Beaverdam county road from the church at Bethel, on the W. W. Wilson property, about 450 feet southwest of an old mill dam, about 325 feet south of an old two-story mill house, between the road and the creek, 46.6 feet southwest of a 22-inch forked buckeye tree on the right bank of the creek, near a gate, 35.7 feet south of the north gatepost, 27.6 feet south of the south gatepost and in a sharp-topped boulder. A standard USC&GS disk stamped "L 123 X 1935" and set in boulder.

ELEVATION: 2668.741 feet or 813.434 meters (T-2)

LHT 334 (TVA, 1937; Carter County, Tennessee)

Located about 15.9 miles northeast along State Highway 91 from Elizabethton, about 1.7 miles northeast of Baladeen, on the Jack Campbell property, about 160 feet north of a one-story farmhouse, about 110 feet northwest of a one-story wash house, 90 feet northwest of a chick house, 90 feet east of a timber bridge over Stones Creek, 80 feet west of a small barn, 25 feet south of a gate, on the south side of the highway, inside the farmyard and in a rock outcrop. A standard TVA tablet stamped "LHT 334 1937" and set in outcrop.

ELEVATION: 2435.212 feet or 742.254 meters (T-2)

LHT 335 (TVA, 1937; Carter County, Tennessee)

Located about 16.7 miles northeast along State Highway 91 from Elizabethton, about 2.5 miles northeast of Baladeen, about 2.5 miles southwest of the Carter-Johnson County line, at the Macon Shown property, about 200 feet south of an old 1-1/2 story farmhouse in an apple grove on the north side of the highway, 100 feet northwest of an old 40-inch oak stump on the hillside, 100 feet west of a 6-inch forked apple tree, 28.8 feet southwest of a WINDING ROAD sign, on the south side of the highway and in a small borrow pit near a trail. A standard TVA tablet stamped "LHT 335 1937" and set in the top of a concrete post.

ELEVATION: 2640.172 feet or 804.726 meters (T-2)

LHT 336 (TVA, 1937; Carter County, Tennessee)

Located about 17.0 miles northeast along State Highway 91 from Elizabethton, about 2.8 miles north of Baladeen, about 2.2 miles southwest of the Carter-Johnson county line, on the inside of a hillside curve, about 300 feet southwest of the junction of Stones Creek and Lindy Camp Branch, about 150 feet southwest of a tall hemlock at the toe of a fill, 75 feet southeast of a scar-sided leaning locust tree, 40 feet northwest of a 20-inch poplar tree on the top of a cut, on the south side of the highway and in bedrock at the toe of the cut. A standard TVA disk stamped "LHT 336 1937"

ELEVATION: 2758.337 feet or 840.749 meters (T-2)

LHT 337 (TVA, 1937; Carter County, Tennessee)

Located about 17.4 miles northeast along State Highway 91 from Elizabethton, about 1.8 miles southwest of the Carter-Johnson county line, on the inside of a sharp curve, near the junction of a small branch and Lindy Camp Branch, 90 feet west of the upstream end of two pipes under the highway, 80 feet northeast of the upstream end of another pipe, on the northwest side of the highway and at the foot of a fill. A standard TVA tablet stamped "LHT 337 1937" and set in the top of a concrete post.

ELEVATION: 289.094 feet or 883.036 meters (T-2)

LHT 338 (TVA, 1937; Carter County, Tennessee)

Located about 18.1 miles northeast along State Highway 91 from Elizabethton, about 1.1 miles southwest of the Carter-Johnson county line, on the inside of a sharp curve, about 175 feet southwest of a WINDING ROAD sign, about 175 feet southeast of a SLOW sign, 100 feet south of an 8-inch maple tree and a 6-inch black-gum tree, at the toe of a hillside cut, 30 feet northwest of an old 20-inch stump on the top of the cut, on the south side of the highway and in bedrock. A standard TVA tablet stamped "LHT 338 1937" and set in bedrock.

ELEVATION: 3155.040 feet or 961.658 meters (T-2)

LHT 339 (TVA, 1937; Carter County, Tennessee)

Located about 18.7 miles northeast along State Highway 91 from Elizabethton, about 0.5 mile southwest of the Carter-Johnson county line, on the outside of a sharp curve, 103.5 feet south of a WINDING ROAD sign on the southeast side of the highway, 60 feet northwest of a 5-inch cherry tree near an old 40-inch stump at the top of the left bank of a short rock-covered draw, 50 feet northeast of the junction of a hillside trail, 30 feet west of old 30-inch twin tree stumps on the right bank of the draw, on the southeast side of the highway and in a boulder in the draw. A standard TVA tablet stamped "LHT 339 1937" and set in boulder.

ELEVATION: 3353.914 feet or 1022.275 meters (T-2)

LHT 340 (TVA, 1937; Johnson County, Tennessee)

From Tennessee State Highway 159 bridge over Elk River Embayment of Watauga Lake, go eastward along Highway 159, 4.8 miles to mark, set in old abandoned schoolyard 81 feet northwest of center line highway, 17 feet N 15° E of right of way monument. A standard USC&GS disk stamped "LHT 340 1937" and set in the top of a concrete post. Steel post with control marker sign set 3.1 feet south of monument, 22.8 feet N 40° E to southwest corner old concrete porch slab.

ELEVATION: 2619.263 feet or 798.353 meters (T-2)

LHT 341 (TVA, 1937; Watauga County, North Carolina)

Located about 0.9 mile east along the Beaverdam road from the church at Bethel, at the junction of the Ward Gap farm road, in the southwest corner of the junction, on the E. N. Norris property about 500 feet northeast of a two-story farmhouse, about 145 feet northwest of a single-span timber bridge over Beaverdam Creek, about 130 feet west of the road junction, 5.6 feet east of a pole and on a small mound in a field. A standard TVA tablet stamped "LHT 341 1937" and set in the top of a concrete post.

ELEVATION: 2729.247 feet or 831.876 meters (T-2)

LHT 342 (TVA, 1937; Watauga County, North Carolina)

Located about 1.9 miles south along the Beaverdam road from the Beaverdam Church at Reese, at the junction of the Fork Branch farm road, on the H. H. Johnson property, about 160 feet southwest of a barn, about 100 feet east of a 1-1/2 story farmhouse on the county road, on the northeast side of the road, 90 feet northwest of a spring house, 75 feet east of a small barn near a bridge, 49.1 feet southwest of a 60-inch hollow white oak tree, 39.9 feet southeast of a 16-inch scar-sided hemlock tree, in the toe of a small slope and on the outside of the bend in the road. A standard TVA tablet stamped "LHT 342 1937" and set in the top of a concrete post.

ELEVATION: 2807.314 feet or 855.671 meters (T-2)

LHT 343 (TVA, 1937; Watauga County, North Carolina)

Located 15.5 miles south from Mountain City and 1.1 miles northeast from Mast, at the intersection of Sawyer Creek county road and U. S. Highway 421, on the property of A. N. Mast, in the southeast corner of road intersection, 1400 feet west of round topped barn, 900 feet southwest of 1-1/2 story farmhouse and barn, 475 feet northeast of two-story farm home, 300 feet southwest of timber bridge on county road and at junction of creeks, 110 feet north along fence line from barn, 110 feet southeast of junction telephone pole, and 20 feet southeast of road intersection, and in pasture field on the north and south fence line between road intersection and barn, 113.1 feet N 2° 00' W of northeast corner of barn, and 111.7 feet N 16° 00' E of northwest corner of barn. A standard USGS tablet stamped "LHT 343 1937" and set in concrete monument.

ELEVATION: 2825.470 feet or 861.205 meters (T-2)

LHT 344 (TVA, 1937; Johnson County, Tennessee)

Located about 2.8 miles northwest along the Locust Gap county road from the Beaverdam Church at Reese, at the point of a hairpin curve, on the right bank of Mill Creek, about 150 feet northwest of a ford at the crossing of Mill Creek, 17.2 feet southeast of a 45-inch locust stump on the southwest edge of the road, 15.7 feet northwest of a 36-inch red oak tree, near a rhododendron thicket and in a flat topped boulder. A standard TVA tablet stamped "LHT 344 1937" and set in boulder.

ELEVATION: 3248.865 feet or 990.256 meters (T-2)

LHT 348 (TVA, 1937; Carter County, Tennessee)

Located 7.2 miles from junction with Highway 67, or 0.3 miles northwest of road junction at west end of new bridge across Elk River Embayment, on Little Milligan-Elk Mills road, on the west bank of Elk River, at lower edge of bench about 12 feet wide, immediately below present blacktop road, 42 feet northeast of center line blacktop road, 53.4 feet north of 6-inch sycamore, 111.1 feet north of 8-inch sycamore, and 62.7 feet west of 14-inch apple tree. A standard TVA tablet stamped "LHT 348 1937" and set in large boulder. Steel post with control marker sign set 1.8 feet west of tablet.

ELEVATION: 1980.012 feet or 603.509 meters (T-2)

LHT 349 (TVA, 1937; Carter County, Tennessee)

Located about 0.6 mile south along the Elk River road from Elk Mills, about 400 feet west across the river from a one-story house, at the point where the river breaks away from the road, in a large rock cut and fill, on the south side of the road and in a large boulder. A standard TVA tablet stamped "LHT 349 1937" and set in boulder.

ELEVATION: 2095.199 feet or 638.618 meters (T-2)

LOVES KNOB (USGS, 1934; Watauga County, North Carolina)

Located on open top locally known as Love Knob, on property of M. A. Ward, about 2.4 miles (airline) northwest of Sugar Grove Post Office and about 0.8 miles southwest of Ward Gap. To reach from Mountain City, take U. S. Highway 421 to Sugar Grove Post Office, 20.4 miles, turn right on State Highway 603, go 1.7 miles, turn right, go 1.2 miles to home of L. D. Harmon, park car, and walk west 0.6 miles to station. A standard USGS tablet set in rock on extreme top of knob and stamped "LOVES KNOB 1934".

Reference Mark 1: 130.9 feet S 60° W to drill hole in rock ledge.

Reference Mark 2: 309.5 feet S 55° E to drill hole in set rock.

GEODETIC POSITION: Lat. = 36°15'55.869; Long. = 81°49'43.253" (G-3)

To Station	Azimuth	Back Azimuth	Log Meters	Miles
Beech	27°42'57.2"	207°41'04.8"	4.009987	6.4
Buck Ridge	87 51 13.1	267 46 51.8	4.043207	6.9
Bald of Rich	242 41 28.2	62 45 26.6	4.053398	7.0
Rich	286 53 27.6	106 57 48.0	4.060398	7.1

GRID POSITION (Tennessee): X = 3,229,405.1; Y = 708,180.5 (G-3)

ELEVATION: 3696 feet (T-5)

LR 57 (TVA, 1937; Johnson County, Tennessee)

Located in southwest portion of Quadrangle 214 SW, near Carter County line, on property of Hope Norris. To reach from Butler, Tennessee, at Watauga River Bridge, drive south 0.1 mile to T-intersection, turn left on Elk River road 2.8 miles to T-intersection. Keep straight ahead along river on Sugar Hollow road, crossing Elk River 0.4 miles from intersection. Turn left on farm road 2.2 miles from intersection, turn left again 500 feet further, and 0.1 mile from Sugar Hollow road bear right at Y-intersection. Station is on top of knob 0.1 mile north of Y-intersection, 30 feet west of fence, about 2 feet north of fence line, 42.72 feet N 73° W of corner fence post, and 19.40 feet N 35° W of oak snag. A 1- by 1- by 1/4-inch angle iron stamped "TVA LR 57".

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,184,056.2; Y = 716,364.1 (T-4)

ELEVATION: 2425 feet (T-5)

LR 65 (TVA, 1937; Watauga County, North Carolina)

Located on top of ridge 12 miles (airline) south of Mountain City. To reach from Sugar Grove, drive 3.2 miles northwest to Sweetwater, thence west 0.2 mile to T-intersection, thence right 0.6 mile to farm road left. Cross creek and go up hollow to top of ridge. Station is on west side of ridge about 100 feet west of point of woods, 13.21 feet N 14° E of 20-inch chestnut snag, 20.81 feet S 14° W of 12-inch chestnut snag, and 31.42 feet S 71° W of 4-inch locust. A cross in 1- by 1- by 1/4-inch angle iron.

GRID POSITION (Tennessee): X = 3,227,582.1; Y = 720,301.4 (T-4)

ELEVATION: 3230 feet (T-5)

LR 67 (TVA, 1937; Johnson County, Tennessee)

Located on top of knob 5 miles (airline) southeast of Butler. To reach from Butler, drive northeast 0.1 mile and turn right, thence west 4.4 miles to T-intersection, thence southwest 1.0 mile to T-intersection, thence left across high level iron truss bridge 5.5 miles to North Carolina-Tennessee state line.

Turn left on farm road and follow around hill and down hollow to water tank on Whiting Lumber Company railroad, thence downstream across river to high bluff on right. Take up ridge to first knob. Station is 3.61 feet S 34° W of 5-inch black oak, 5.29 feet N 54° E of 7-inch black oak, and 7.57 feet S 29° E of 10-inch pine. A 1- by 1- by 1/4-inch angle iron with cross.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,198,791.7; Y = 715,900.8 (T-4)

ELEVATION: 2536 feet (T-5)

LR 69 (TVA, 1937; Avery County, North Carolina)

Located 7.9 miles north of Elk Park. To reach from Whaley, drive north on gravelled road 3.0 miles to T-farm road left. Drive left up hollow 1200 feet to sawmill. Continue past sawmill 500 feet and turn right up skid road on side of ridge 250 feet. Station is in center line of skid road. A punched hole in a 1- by 1- by 1/4-inch angle iron.

GRID POSITION (Tennessee): X = 3,199,360.5; Y = 706,451.4 (T-4)

ELEVATION: 3367 feet (T-5)

LR 71 (TVA, 1937; Watauga County, North Carolina)

Located 12.4 miles south of Mountain City, on property of Duke Glenn. To reach from Bethel, drive west on dirt road to Leander, 1.1 miles to T-intersection right. Turn right on dirt road 1.4 miles to T-road left. Turn left on woods road 0.8 mile to two-story house on right. Go north up ridge to high point. Station is 300 feet east of top about 50 feet south of rail fence and on nose of ridge, and 49.0 feet S 21° E of 12-inch soft pine. A punched hole in a 1- by 1/4-inch angle iron stamped "TVA LR 71 1937".

GRID POSITION (Tennessee): X = 3,213,363.0; Y = 718,555.0 (T-4)

ELEVATION: 3447 feet (T-5)

LR 73 (TVA, 1937; Watauga County, North Carolina)

Located 6-1/2 miles west of Boons. To reach from Sugar Grove, drive west on State Highway 603 0.1 mile, then turn left on farm road to 2-story frame house, thence up ridge on left 1500 feet to top. Station is in northwest corner of intersection of fences 100 feet north of top of knob. A 1- by 1- by 1/4-inch angle iron stamped "TVA LR 73 1937".

GRID POSITION (Tennessee): X = 3,240,471.5; Y = 703,231.3 (T-4)

ELEVATION: 2928 feet (T-5)

LR 75 (TVA, 1937; Watauga County, North Carolina)

Located 1.8 miles east of Cove Creek. To reach from Sherwood, drive east on Vanderpool Drive 0.3 miles to Y-intersection. Bear right 0.9 miles to Y-intersection. Bear right 0.1 mile to farm road left. Turn left on farm road 0.2 miles to farmhouse. Go up creek 2000 feet to gap, then turn right 150 feet to fence corner. Station is in southeast corner of fence intersection. A punched hole in a 1- by 1- by 1/4-inch angle iron stamped "TVA LR 75 1937".

GRID POSITION (Tennessee): X = 3,251,904.2; Y = 710,797.3 (T-4)

ELEVATION: 3302 feet (T-5)

LR 84 (TVA, 1937; Johnson County, Tennessee)

Located 1-1/4 miles (airline) northeast of Mountain City. To reach from Mountain City, drive north on the Damascus road, 1.3 miles to farm road right, thence east 0.7 miles to farm house, thence to right on the left and thence left to high knob, 1000 feet northeast of above farm house, 3.21 feet N 3° E of 2-inch oak, 4.56 feet N 80° E of sassafras stump, and 3.00 feet S 8° W of sassafras. A 1- by 1- by 1/8-inch angle iron stamped "TVA LR 84 1937".

GEODETIC POSITION: Lat. = 36°29'01.53"; Long. = 81°46'39.85" (T-4)

GRID POSITION (Tennessee): X = 3,240,984.1; Y = 788,200.3 (T-4)

ELEVATION: 3215 feet (T-5)

LR 98 (TVA, 1938; Johnson County, Tennessee)

Located 2.4 miles (airline) south of Shady Valley. To reach from Shady Valley at junction of U. S. Highway 421, Tennessee Highway 91, drive southwest on Highway 91 1.6 miles to crossroad. Turn left past sawmill 1.7 miles, keeping to road on southeast side of ridge, to creek crossing road, go on foot up creek to top of ridge. Station is on second knob about 700 feet southwest of northeast end of ridge, 7.66 feet from 2-inch hickory, 2.23 feet from 3-inch wild cherry, and 1.36 feet from 9-inch wild cherry. A 1- by 1-inch angle iron stamped "TVA LR 98 1938".

GRID POSITION (Tennessee): X = 3,198,822.0; Y = 785,838.3 (T-4)

ELEVATION: 3755 feet (T-5)

LR 103 (TVA, 1938; Johnson County, Tennessee)

Located 1-3/4 miles (airline) west of Mountain City. To reach from Mountain City, drive 2.0 miles west on U. S. Highway 421 to farm road left, 1000 feet east of Valley View Church. Follow farm road south 0.2 mile to shed on the left. Station is 1000 feet north in clearing in edge of woods on top of ridge, 35.1 feet N 31° E of 30-inch pine, 13.4 feet N 68° E of 12-inch chestnut stump, and 19.9 feet S 37° E of 10-inch oak. A 1- by 1-inch angle iron stamped "TVA LR 103 1938".

GRID POSITION (Tennessee): X = 3,225,832.4; Y = 788,487.0 (T-4)

ELEVATION: 2672 feet (T-5)

LR 105 (TVA, 1937; Johnson County, Tennessee)

Located 3-1/2 miles (airline) west of Mountain City. To reach from Mountain City, drive 3.5 miles west on State Highway 67 to Dewey Church. Turn right on dirt road 1.5 miles to last house. Station is 800 feet west of house on side of hill at point of woods and corner of fence, 4.08 feet S 17° E of 12-inch pine, 3.90 feet N 15° W of 3-inch dogwood, and 6.60 feet N 50° E of 4-inch pine. A 1- by 1-inch angle iron stamped "TVA LR 105 1938".

GRID POSITION (Tennessee): X = 3,214,073.4; Y = 786,671.4 (T-4)

ELEVATION: 2917 feet (T-5)

LR 280 (TVA, 1938; Johnson County, Tennessee)

Located 0.8 mile north of Mountain City. To reach from Mountain City at Farmers' State Bank building, drive north 0.9 mile on State Highway 91 to white house on right. Turn left on farm road 200 feet across creek, then turn right through barnyard and along creek 400 feet to field road left at tool shed. Follow field road left 0.15 mile to station. Station is at north edge of road at gate post, 100 feet east of center line ridge, 1.7 feet N 55° E of gate post, 14.4 feet S 70° E of corner fence post, and 27.0 feet S 80° W of gate post. A 1- by 1-inch angle iron stamped "TVA LR 280 1938".

GRID POSITION (Tennessee): X = 3,234,371.4; Y = 789,023.7 (T-4)

ELEVATION: 2554 feet (T-5)

LUCIUDA (USCGS, 1934; Johnson County, Tennessee)

Located about 3 miles northwest of Zionsville, N. C., 2-1/2 miles a little north of west of Trade, 1/4 mile northwest of North Carolina-Tennessee State line, along Lucinda Creek, through State Line Gap, on property of Mr. Mays, on west side of right-of-way of side road running from U. S. Route 421 near Key station and on bank 8 feet above and 14.8 feet from center line thereof, 85 feet from 12-inch white oak tree, and 10 feet inside and northwest of fence corner. To reach from junction of Routes 421 and 67 in Trade, go northwest 1.85 miles on Route 421 to stone T-road to left just beyond white church on right, turn left and go southwest 2.55 miles to station site. Surface mark is a standard disk triangulation station mark set in the top of a square block or post of concrete. Underground mark is a block of concrete 3 feet below the ground containing at the center of its upper surface a standard disk triangulation station mark.

Reference and azimuth marks are standard disk reference marks with the arrows pointing toward the station each set at the center of the top of a square block or post of concrete.

Reference mark 1 is 24.6 feet from twin 10-inch chestnut tree, 9 feet above and 16.4 feet (slope distance) from center line of road, and 67.90 feet from station in geodetic azimuth 175°13'.

Reference mark 2 is across road, 14.9 feet from 12-inch maple tree and 11.6 feet from 8-inch maple tree which are on south side of fence line 21 feet apart, 70 feet (slope distance) from center line of road, 1 foot north of fence line, and 20 feet below and 107.80 feet (slope distance) from station in geodetic azimuth 318°40'.

Azimuth mark is 133.2 feet northeast of nearer of two 10-inch poplar trees 12 feet apart (trees are 25 feet north-northeast of spring), 79.4 feet west of point where trail leads north from road, 7 feet above and 15.7 feet north of center line of road on edge of second-growth brush, and 250 yards from station.

GEODETIC POSITION: Lat. = 36°21'23.141"; Long. = 81°47'19.399" (C-2)

To Station	Geodetic Azimuths		Distances	
	Azimuth	Back Azimuths	Log Meters	Miles
Trout	248°11'22.1"	68°16'31.4"	4.146033	8.7
Bald of Rich (USGS)	307 11 57.5	127 14 31.0	3.908977	5.0
Azimuth Mark	274 09 16			

GRID POSITION (Tennessee): X = 3,239,751.40; Y = 741,748.86 (C-2)
 Grid Azimuth to Azimuth Mark: 271°41'20"
 ELEVATION: 3603.415 feet or 1098.323 meters (C-2)

LUCIUDA RM 1 (USCGS, 1934; Johnson County, Tennessee)

For description, see triangulation station LUCIUDA.

ELEVATION: 3599.681 feet or 1097.185 meters (C & T-2)

M 104 (USCGS, 1935; Johnson County, Tennessee)

Located at Shouns, about 25 yards northeast of the Southern Railway station, about 22 yards north of milepost 126, about 35 yards northwest of the center line of a county road, about 22 yards east of the east rail, 6 feet north of a pole and about level with the track. A standard USCGS disk stamped "M 104 1935" and set in the top of a concrete post.

ELEVATION: 2306.774 feet or 703.106 meters (C-2)

M 123 (USCGS, 1935; Watauga County, North Carolina)

Located about 2.5 miles southwest along the Beavertown county road from the church at Bethel, about 300 feet east of a clearing on the northwest side of the road, about 200 feet east of a pipe line under the road, about 100 feet east of a wooden bridge on the old road location, northeast of a trail and creek crossing, about 100 feet southwest of the junction of the old and new roads, on the southeast side of the county road, 15 feet southwest of the junction of a trail and the old road, between the road and the creek and in a large boulder. A standard USCGS disk stamped "M 123 1935".

ELEVATION: 2640.406 feet or 804.798 meters (T-2)

MOUNTAIN CITY 1 (USGS, 1934; Watauga County, North Carolina)

Located 1.7 miles (airline) northwest of Sugar Grove 1500 feet S 20° W from George Gap, about middle of bare top. A drill hole.

Reference Mark 1: 27.2 feet S 8° E to drill hole in triangle chiseled on rock.

GEODETIC POSITION: Lat. = 36°16'32.564"; Long. = 81°48'17.419" (G-3)

To Station	Geodetic Azimuths		Distances	
	Azimuth	Back Azimuths	Log Meters	Miles
Loves Knob	62°10'36.2"	242°09'45.5"	3.384287	1.5
Bald of Rich	242 50 57.7	62 54 05.3	3.948697	5.5
Rich	296 48 10.6	116 51 40.2	3.994648	6.2

GRID POSITION (Tennessee): X = 3,236,268.9; Y = 712,188.1 (G-3)
 ELEVATION: 3745 feet (T-5)

MOUNTAIN CITY 2 (USGS, 1934; Watauga County, North Carolina)

Located 1 mile (airline) east of Beech Creek, 1/2 mile S 45° W of Windy Gap, on bare rocky top on east-west fence line, 200 feet west of T-fence south. A drill hole.

Reference Mark 1: 223 feet S 86° E to drill hole in ledge of rock.

GRID POSITION (Tennessee): X = 3,214,679.2; Y = 702,585.3 (G-3)
 ELEVATION: 3460 feet (T-5)

MOUNTAIN CITY 3 (USGS, 1934; Johnson County, Tennessee)

Located 1 mile (airline) S 35° W from Mountain City, on Doe Mountain, on property of Virginia Iron Coal and Coke Company. Drill hole directly under 20-inch water oak tree.

GEODETIC POSITION: Lat. = 36°27'47.653"; Long. = 81°48'47.941" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Iron	140°29'16.3"	320°27'19.5"	3.885314	4.8
Lewis	284 00 37.0	104 03 53.6	3.922238	5.3

GRID POSITION (Tennessee): X = 3,230,852.4; Y = 780,286.8 (G-3)
 ELEVATION: 3326 feet (T-5)

MOUNTAIN CITY 4 (USGS, 1934; Johnson County, Tennessee)

Located 1/4 mile south of Shady settlement on road to Elizabethton, on property of N. J. Blackburn, 80.6 feet S 61° W from private T-road east. A drill hole in rock directly under 12-inch wild cherry tree.

GEODETIC POSITION: Lat. = 36°29'53.220"; Long. = 81°56'26.503" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Rich Rnd	106°06'55.6"	286°05'22.9"	3.605801	2.5
McQueen	191 46 44.9	11 47 25.5	3.922283	5.2

GRID POSITION (Tennessee): X = 3,192,899.4; Y = 791,396.7 (G-3)
 ELEVATION: 2844 feet (T-5)

MOUNTAIN CITY 5 (USGS, 1934; Johnson County, Tennessee)

Located 3 miles (airline) southwest of Little Doe and about 1/2 mile (airline) northeast of Pandora on property of Wade and Sam McEwen. Station is 175 feet and N 28° W from corner of fence and wood line. A drill hole in rock directly under 14-inch hickory.

GEODETIC POSITION: Lat. = 36°26'04.191"; Long. = 81°56'00.085" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Old Doe L. O.	17°44'17.8"	197°43'47.8"	3.616698	2.6
Mountain City	8	247 04 21.3	67 06 22.9	3.743018

GRID POSITION (Tennessee): X = 3,196,016.8; Y = 768,344.9 (G-3)
 ELEVATION: 2539 feet (T-5)

MOUNTAIN CITY 6 (USGS, 1934; Johnson County, Tennessee)

Located about 1500 feet from settlement of Baker Gap, on property of Jones and Morse. Drill hole in rock under 19-inch chestnut oak tree, 125 feet N 65° W from woods corner.

GEODETIC POSITION: Lat. = 36°22'25.925"; Long. = 81°52'22.072" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Elizabethton	19 41 42 03.2"	221 37 20.7"	4.252971	11.1
Old Doe L. O.	112 37 35.6	292 34 56.3	3.860414	4.5
Bald of Stone	291 10 20.6	111 12 37.9	3.791101	3.8

GRID POSITION (Tennessee): X = 3,214,747.6; Y = 747,037.8 (G-3)
 ELEVATION: 2785 feet (T-5)

MOUNTAIN CITY 7 (USGS, 1934; Johnson County, Tennessee)

Located 3.5 miles southwest of Shouns and 1-1/4 miles (airline) S 75° E of Maymead, on property of Dr. W. W. Vaught, 185 feet S 85° W from woods corner. A drill hole in rock directly under 16-inch white pine.

GEODETIC POSITION: Lat. = 36°24'29.323"; Long. = 81°48'50.949" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Mountain City	3	180°42'07.5"	00°42'09.3"	3.786305
Lewis	244 00 17.9	64 03 36.2	3.966373	5.8
Bald of Stone	355 15 52.7	175 16 04.6	3.782382	3.8

GRID POSITION (Tennessee): X = 3,231,464.5; Y = 760,238.1 (G-3)
 ELEVATION: 2688 feet (T-5)

MOUNTAIN CITY 8 (USGS, 1934; Johnson County, Tennessee)

Located about 4 miles (airline) southwest of Mountain City and about 2000 feet northeast of Little Doe, on southeast side of State Highway 67, on property owned by D. B. Shoun. A drill hole in rock directly under fence post.

GEODETIC POSITION: Lat. = 36°27'14.082"; Long. = 81°52'35.418" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Old Doe L. O.	46°14'01.2"	226°11'29.6"	3.944861	5.5
Iron	186 20 57.3	6 21 15.8	3.845147	4.4

ELEVATION: 2450 feet (T-5)

MOUNTAIN CITY 9 (USGS, 1934; Johnson County, Tennessee)

Located on property of B. C. Lipford, about 4 miles southeast of Mountain City and about 2 miles east of Rhea Forge, on wooded top about 400 feet northeast of road fork. A drill hole in rock directly under 12-inch hemlock tree.

GEODETIC POSITION: Lat. = 36°26'10.419"; Long. = 81°45'23.745" (G-3 Unchecked Position)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Mountain City	3	120°31'52.6"	300°29'51.3"	3.771045
Lewis	253 28 44.4	73 29 59.7	3.517758	2.0

GRID POSITION (Tennessee): X = 3,247,943.8; Y = 771,181.2 (G-3 Unchecked Position)
 ELEVATION: 2826 feet (T-5)

MOUNTAIN CITY 10 (USGS, 1934; Johnson County, Tennessee)

Located on property of Roy Wallace about 7 miles (airline) southeast of Mountain City and about 1500 feet east of Highway 67 at Key Station. A drill hole in planted rock directly under 22-inch chestnut tree.

GEODETIC POSITION: Lat. = 36°22'35.466"; Long. = 81°45'28.763" (G-3 Unchecked Position)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Snake	312°26'48.8"	132°28'39.1"	3.798517	3.9
Bald of Rich	332 35 26.0	152 36 53.9	3.905025	5.0

GRID POSITION (Tennessee): X = 3,248,476.0; Y = 749,446.5 (G-3 Unchecked Position)
 ELEVATION: 3184 feet (T-5)

MOUNTAIN CITY 12 (USGS, 1934; Johnson County, Tennessee)

Located on Little Dry Run Mountain about 4 miles (airline) northeast of Butler and about 1 mile south of Doe station. A drill hole in rock directly under 14-inch hickory tree.

GEODETIC POSITION: Lat. = 36°21'49.284"; Long. = 81°56'24.102" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Pond	55°54'11.4"	235°48'56.3"	4.204957	10.0
Nidever	90 40 21.5	270 36 02.4	4.037240	6.8
Old Doe L.O.	170 24 25.7	350 24 10.0	3.599023	2.5

GRID POSITION (Tennessee): X = 3,195,124.9; Y = 742,508.0 (G-3)
 ELEVATION: 2968 feet (T-5)

MOUNTAIN CITY 13 (USGS, 1934; Johnson County, Tennessee)

Located on partially open top about 4 miles (airline) south-east of Butler and about 1-1/4 miles (airline) northeast of junction of Big Dry Run and Watauga River, on property of J. A. Dugger. A drill hole in rock directly under 16-inch poplar tree.

GEODETIC POSITION: Lat. = 36°19'40.755"; Long. = 81°55'19.848" (G-3)

To Station	Geodetic Azimuth		Distance	
	Azimuth	Back Azimuth	Log Meters	Miles
Buck Ridge	19°43'30.0"	199°42'27.5"	3.892652	4.9
Elizabethton	19 42 03 32.2	222 00 35.0	4.047478	6.9
Gregg	76 06 52.2	256 05 19.2	3.605656	2.5

GRID POSITION (Tennessee): X = 3,200,917.3; Y = 729,740.4 (G-3)
 ELEVATION: 2713 feet (T-5)

MOUNTAIN CITY 14 (USGS, 1934; Johnson-Watauga Counties, Tennessee-North Carolina)

Located about 7-1/2 miles east of Butler and about 2000 feet southwest of road over Stone Mountain at Baker Gap, on property of George Akera. A drill hole in rock directly under 20-inch water oak tree. Rock is 5 inches under surface of ground.

GEODETIC POSITION: Lat. = 36°19'29.876"; Long. = 81°52'05.015" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Old Doe L. O.	139°05'43.8"	319°02'56.9"	4.036267	6.8
Bald of Stone	239°06'54.1"	59°09'01.0"	3.793869	3.9
Mountain City	277°57'07.2"	97°59'49.6"	3.839247	4.3

MOUNTAIN CITY 15 (USGS, 1934; Watauga County, North Carolina)

Located 10.5 miles (airline) south of Mountain City, and about 2.5 miles (airline) southwest of Zionville, on open top Buckeye Knob, on property of Sherwood and Mast. A drill hole in rock.

GEODETIC POSITION: Lat. = 36°18'58.790"; Long. = 81°47'30.822" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Bald of Stone	160°09'22.2"	340°08'45.6"	3.644636	2.7
Snake	252°24'15.2"	72°27'17.4"	3.906396	5.0
Loves Knob	30°23'09.7"	210°21'52.6"	3.815260	4.1

GRID POSITION (Tennessee): X = 3,239,445.3; Y = 727,124.9 (G-3)

ELEVATION: 4379 feet (T-5)

MOUNTAIN CITY 17 (USGS, 1934; Watauga County, North Carolina)

Located on property of Mrs. Julia Shook, about 2.8 miles (airline) southwest of Zionville, and about 0.5 mile northeast of junction of Laurel Branch and Cove Creek. Drill hole in rock directly under 16-inch wild cherry tree on small wooded top.

GEODETIC POSITION: Lat. = 36°17'09.882"; Long. = 81°46'15.060" (G-3 Unchecked Position)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Mountain City	150°37'18.8"	330°36'34.0"	3.585740	2.4
Snake	225°00'41.2"	45°02'58.8"	3.913450	5.1

GRID POSITION (Tennessee): X = 3,246,115.8; Y = 716,389.3 (G-3)

ELEVATION: 3077 feet (T-5)

MOUNTAIN CITY 18 (USGS, 1934; Watauga County, North Carolina)

Located on the property of D. J. Horton, 1.4 miles northeast of Vias and about 5.5 miles (airline) south of Zionville. Station is drill hole in rock directly under 14-inch maple tree and 20 feet east and about 3 feet lower than top.

GEODETIC POSITION: Lat. = 36°15'23.678"; Long. = 81°45'16.300" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Loves Knob	98°29'26.4"	278°26'48.5"	3.828497	4.2
Mountain City	115°10'16.6"	295°08'29.4"	3.698518	3.1
Mountain City	153°09'25.3"	333°08'05.7"	3.871092	4.6

GRID POSITION (Tennessee): X = 3,251,387.8; Y = 705,868.2 (G-3)

ELEVATION: 3294 feet (T-5)

MOUNTAIN CITY 19 (USGS, 1934; Johnson County, Tennessee)

Located on Forge Mountain, about 2.9 miles (airline) northeast of Mountain City and about 2.8 miles northwest of Amber Gap, on property of Virginia Coke, Coal and Iron Company. Station is a drill hole in rock under 16-inch water oak on south end of top.

GEODETIC POSITION: Lat. = 36°29'19.392"; Long. = 81°45'25.538" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Bald Knob	229°13'15.4"	49°14'29.8"	3.614104	2.6
Lewis	326°45'52.8"	146°47'09.3"	3.766707	3.6

GRID POSITION (Tennessee): X = 3,246,969.2; Y = 790,267.4 (G-3)

ELEVATION: 4115 feet (T-5)

MOUNTAIN CITY 20 (USGS, 1934; Carter County, Tennessee)

Located on northeast end of wooded top about 1.5 miles north-west of Elk Mills and about 2.8 miles (airline) south of Butler, on property of W. R. Miller. Station is drill hole in rock directly under 13-inch poplar tree.

GEODETIC POSITION: Lat. = 36°17'56.437"; Long. = 81°59'58.845" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Pond	77°04'36.9"	257°01'29.2"	3.909640	5.0
Old Doe L.O.	202°54'41.7"	22°56'33.3"	4.080811	7.5
Gregg	233°33'57.0"	53°35'09.3"	3.577914	2.4

GRID POSITION (Tennessee): X = 3,178,537.7; Y = 718,258.3 (G-3)

ELEVATION: 2403 feet (T-5)

MOUNTAIN CITY 21A (USGS, 1934; Johnson County, Tennessee)

Located 2-1/2 miles (airline) north of Butler and 11 miles (airline) southwest of Mountain City, 1/4 mile west of T-road north opposite church and 600 feet south of highway at edge of woods. To reach from Elizabethton, take State Highway 67, 5.8 miles to Hampton, turn left and proceed 8.3 miles on road toward Butler, turn left across bridge and proceed 5.0 miles, walk 600 feet south from highway to station at edge of woods. Drill hole in rock and triangle blazed on tree.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GEODETIC POSITION: Lat. = 36°22'20.451"; Long. = 81°59'34.037" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Elizabethton	164°42'48.5"	344°42'17.0"	3.698832	3.1
Old Doe L.O.	234°00'31.9"	54°02'08.9"	3.701704	3.1

GRID POSITION (Tennessee): X = 3,179,473.9; Y = 745,017.0 (G-3)

ELEVATION: 2262 feet (T-5)

MOUNTAIN CITY NO. 22 (USGS, 1934; Johnson-Carter Counties, Tennessee)

Located about 16 miles (airline) northeast of Elizabethton at head of Stony Creek. To reach from Elizabethton, take State Highway 91, 20.0 miles to gap, turn left in government lane, go 0.2 miles to station in fence corner, joining properties of Mike Shum and Robert Garland at side of government lane leading to Rich End. Station is drill hole in rock centered under 10-inch

white oak tree and buried flush with ground, triangle cut in tree with 30-penny nail driven in center.

GEODETIC POSITION: Lat. = 36°28'59.037"; Long. = 81°57'50.371" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Rich End	147°19'27.0"	327°18'44.0"	3.520323	2.1
McQueen L.O.	201°02'40.0"	21°04'10.0"	4.023686	6.6

GRID POSITION (Tennessee): X = 3,186,283.1; Y = 785,638.7 (G-3)

ELEVATION: 3568.366 feet or 1087.640 meters (T-2)

N 54 (TVA, 1937; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, thence about 2.6 miles southwest along the Bulldog Creek road, about 0.1 mile south of a hairpin curve, 85 feet southeast of the location of triangulation station Lucinda, on the south side of the road, and in the root of an oak tree. A spike.

ELEVATION: 3594.360 feet or 1095.563 meters (T-2)

N 58 (USCGS, 1934; Johnson County, Tennessee)

Located about 1.2 miles north along U. S. Highway 421 from Trade, on the property of Reed Thomas, about 11 yards north of a point about 30 yards east of the northeast corner of the house, 27 feet west of the center line of the highway, and 2 feet southwest of the fence corner of the first field north of the house. A standard TVA tablet stamped "2984.827 N 58 1934" and set in the top of a concrete post, projecting about 6 inches above ground.

ELEVATION: 2984.656 feet or 909.725 meters (G-2)

N 85 (TVA, 1937; Carter County, Tennessee)

Located at Elk Mills, on the Elk River road, at the Elk Mills School, at the northwest corner of the building, at the entrance to the basement and on the south end of the concrete doorsill. A chiseled square.

ELEVATION: 1990.101 feet or 606.584 meters (T-2)

N 104 (USCGS, 1935; Johnson County, Tennessee)

Located about 0.5 mile southwest along the Southern Railway from the station at Neva, on the Jim Shouns property, at the crossing of the Pine Grove Church road, about 0.2 mile north of a two-story farmhouse, about 1000 feet east of a large barn 75 feet south of power-transmission line junction-pole 179, 60 feet south of a road intersection, 32 feet southwest of the railroad crossing, 11 feet west of a power-transmission line pole at the south fence corner, 15.7 feet south of the south rail, between the track and the fence line and about 2-1/2 feet lower than the track. A standard TVA tablet stamped "N 104 1935" and set in the top of a concrete monument.

ELEVATION: 2156.032 feet or 657.160 meters (C & T-2)

N 123 (USCGS, 1935; Watauga County, North Carolina)

Located about 3.6 miles southwest along a county road from the church at Bethel, on the outside of a hairpin curve, about 700 feet northeast of a two-story farmhouse, 90 feet northeast of a 4-inch forked apple tree, on the east side of the road, 27.1 feet northwest of a 5-inch apple tree near a bar gate, 8.1 feet northeast of the upstream end of a culvert, 5 feet southeast of another bar gate and between the gates. A standard USCGS tablet stamped "N 123 1935" and set in the top of a concrete post.

ELEVATION: 2760.290 feet or 841.338 meters (T-2)

OLD DOE L O (USGS, 1934; Johnson County, Tennessee)

Located on Doe Mountain, about 10 miles (airline) southwest of Mountain City and 2 miles (airline) north of Doeville. To reach from Mountain City, take State Highway 67 toward Hampton about 10 miles, walk south up trail to site of lookout tower and station. A standard TVA tablet stamped "OLD DOE L O 1937" and set in rock flush with ground and centered among 4 concrete blocks.

GEODETIC POSITION: Lat. = 36°23'56.349"; Long. = 81°56'50.666" (G-3)

To Station	Geodetic Azimuth	Back Azimuth	Log Meters	Miles
Buck Ridge	1°23'14.0"	181°23'05.3"	4.182837	9.5
Pond	44°20'37.9"	224°15'38.4"	4.256334	11.2

GRID POSITION (Tennessee): X = 3,192,422.1; Y = 755,256.4 (G-3)

ELEVATION: 3694 feet (T-5)

P 58 (USCGS, 1934; Johnson County, Tennessee)

Located 3.4 miles north along U. S. Highway 421 from Trade, at the Roan Creek Service station, about 50 feet north of a store belonging to Nan Wilson, opposite the elbow of a switchback, about 35 feet west of the center line of the highway, and at the foot of the north bank at a small gap. A standard USCGS disk stamped "2829.141 P 58 1934" and set in the top of a concrete post, projecting 3 inches above ground.

ELEVATION: 2828.971 feet or 862.272 meters (G-2)

P 104 (USCGS, 1935; Johnson County, Tennessee)

Located about 2 miles southeast along the Locust Gap county road from Neva, about 1/4 mile southeast of the junction of the Mill Creek road, on the Daugherty Estate property, about 225 feet northeast of a 3-pronged white pine tree, about 200 feet west of a 1-1/2 story farmhouse in an apple grove, about 200 feet northwest of a 40-inch dead chestnut oak tree, and about 160 feet south of a barn on the southwest side of the road, 53 feet south of a 3-pronged 14-inch sassafras tree, 15 feet east of a 24-inch apple tree and in a fence line on the northeast side of a small field. A standard USCGS disk stamped "P 104 1935" and set in the top of a concrete post.

ELEVATION: 2385.763 feet or 727.182 meters (T-2)

P 111 (USCGS, 1935; Johnson County, Tennessee)

Located about 3.5 miles northwest along the Locust Gap county road from the Beaverdam Church at Reese, on the Daugherty Estate property, on the east side of an old road (now a gully 50 feet wide), about 275 feet west of the road now used (1939), about 200 feet northwest of a tall 36-inch pine tree, about 60 feet west of another tall 36-inch pine tree, about 100 feet east of two 12-inch chestnut oak trees, 44.2 feet southeast of a 6-inch pine tree at the middle of the gully, and in the woods between the roads. A standard USCGS disk stamped "P 111 1935" and set in the top of a concrete post.

ELEVATION: 2801.901 feet or 854.021 meters (T-2)

P 123 (USCGS, 1935; Watauga County, North Carolina)

Located about 4.7 miles southwest along a county road from the church at Bethel, at the junction of a farm road leading southwest, on the W. R. Tester property, about 215 feet south of the corner of a board fence, 60 feet north-west of a large barn, 25 feet west of the road junction, 10 feet south of a

pole and in the corner of a hay field and apple orchard. A standard USC&GS disk stamped "P 123 1935" and set in the top of a concrete post.
ELEVATION: 2714.804 feet or 827.474 meters (T-2)

Q 58 (USC&GS, 1934; Johnson County, Tennessee)

Located 3.8 miles south along U. S. Highway 421 from Shouns, on the property of J. F. Dotson, across the highway from the house of A. A. Davis, 25 feet north of the gate leading to a house, 15 feet north of a storehouse, and about 20 feet west of the center line of the highway. A standard USC&GS disk stamped "2494.782 Q 58 1934" and set in the top of a concrete post, projecting 4 inches above ground.

ELEVATION: 2494.611 feet or 760.359 meters (C-2)

Q 103 X (USC&GS, 1935; Johnson County, Tennessee)

Located along State Highway 91 2.4 miles southwest of junction U. S. Highway 421, State Highway 91, and State Highway 133, 31 feet northwest of center line blacktop highway, 3 feet south of southeast corner barn. A standard USC&GS disk stamped "Q 103 X 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot northwest of monument.

ELEVATION: 3015.335 feet or 919.076 meters (C-2)

Q 104 (USC&GS, 1935; Johnson-Watauga Counties, Tennessee-North Carolina)

Located about 2 miles northwest along the Locust Gap County road from the Beaverdam Church at Reese, at Locust Gap, on the crest of Stone Mountain grade, 90 feet below the divide, at a sharp bend in the road, about 110 feet northwest of a 10-inch poplar tree, 90 feet northwest of the southeast corner of a field, 29.6 feet west of a 10-inch forked locust tree, 36 feet south of a 7-inch forked locust tree, on the west edge of the road, between the road and a dead chestnut oak tree and in a small boulder. A standard USC&GS disk stamped "Q 104 1935".

ELEVATION: 3725.816 feet or 1135.631 meters (T-2)

Q 111 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1.2 miles south along the Locust Gap county road from Neva, at the junction of the Dugger Bridge road, about 250 feet south of a two-story farmhouse, about 200 feet west of a large barn, about 100 feet southwest of a power-transmission line pole at the road fork, 39.2 feet northwest of an 8-inch buckeye tree, 20 feet north of a log bridge and between the road and the creek. A standard USC&GS disk stamped "Q 111 1935" and set in the top of a concrete post.

ELEVATION: 2227.204 feet or 678.853 meters (T-2)

Q 123 (USC&GS, 1935; Watauga County, North Carolina)

Located about 2.6 miles southeast along State Highway 603 from the North Carolina-Tennessee State line, thence about 0.8 mile north along the Whiting Lumber Company railroad, about 0.8 mile southwest along a farm road from bench mark P 123, at the dim farm road crossing, about 500 feet south of a large barn near a farmhouse, about 500 feet south of a crossroads, about 110 feet southwest of a 12-inch tall locust tree, 60 feet southeast of a leaning 20-inch white oak tree, 60 feet east of a 20-inch black gum tree, 60.6 feet south of the southwest corner of a small shack, 20 feet north of the railroad crossing, in a log-loading yard and in a large granite boulder. A standard USC&GS disk stamped "Q 123 1935".

ELEVATION: 2398.502 feet or 731.065 meters (T-2)

R 58 (USC&GS, 1934; Johnson County, Tennessee)

Located 1.8 miles south along U. S. Highway 421 from Shouns, 100 yards south of Forge Creek Bridge, about 60 yards south of an old frame warehouse, 50 yards south of a county road leading east, 33 feet east of the center line of the highway, 15 feet west of a fence line, and on a bank about 4 feet higher than the highway. A standard USC&GS disk stamped "2332.627 R 58 1934" and set in the top of a concrete post, projecting 6 inches above ground.

ELEVATION: 2332.453 feet or 710.933 meters (C-2)

R 61 (USC&GS, 1934; Watauga County, North Carolina) *6000 11-02-90*

Located 2.8 miles southeast along U. S. Highway 421 from Sugar Grove, at the intersection of the tangents of a curve 1/4 mile south of Willow Valley Church, about 100 yards south of a creek, 30 feet southwest of the center line of the highway, and in line with a pole at the foot of a bank. A standard USC&GS disk stamped "R 61 1934" and set in the top of a concrete post, projecting 8 inches.

ELEVATION: 2734.630 feet or 833.517 meters (C-2)

R 103 (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.7 miles southwest along State Highway 91 from the intersection of U. S. Highway 421 at Shady Valley, thence about 1.7 miles southeast along the Doe Valley-Holston Mountain gravel road, 42 feet south of the center line of the road, 6.4 feet southwest of an 18-inch oak tree, 6.4 feet southeast of a 10-inch oak tree, in the top of a limestone outcrop, and about level with the road. A standard USC&GS disk stamped "R 103 1935".

ELEVATION: 3565.741 feet or 1086.840 meters (C-2)

R 103 X (USC&GS, 1935; Johnson County, Tennessee)

Located in open pasture along gravel county road between Shady Valley and Doeville, Tennessee. Go southwest along State Highway 91, 3.7 miles from junction with U. S. Highway 421 to gravel crossroad. Turn left (southeast), and go 0.55 mile to mark, about 85 feet southwest of road. A standard USC&GS disk stamped "R 103 X 1935".

ELEVATION: 3593.762 feet or 1095.381 meters (C & T-2)

R 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, thence about 2.1 miles southwest along the Bulldog Creek road, about 0.1 mile north of a dirt road junction, on the Lala Dunn property, about 150 feet northwest of an old two-story farmhouse, with four gables, about 100 feet south across the road from a one-story store building, on the southeast side of the road, 83.4 feet southwest of the southwest corner of an old barn, 20 feet south of a gate, in the northwest and southeast fence line and at the north fence corner. A standard USC&GS disk stamped "R 104 1935" and set in the top of a concrete post.

ELEVATION: 3377.375 feet or 1029.426 meters (C & T-2)

R 104 X (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, thence about 3.0 miles southwest along the Bulldog Creek road, about 2.9 miles northeast of Reese, 60 feet east of the Tennessee-North Carolina State line, on the northwest side of the road, on the A. L. Shouns property, about 100 feet northwest of a large barn, 75 feet northeast of a store building, 50 feet

southeast of a two-story farmhouse, 50 feet northwest of a small chickenhouse near a 26-inch forked cherry tree, 25 feet southwest of the northwest corner of a wood shed, in the front yard of the farmhouse and near the front fence. A standard USC&GS disk stamped "R 104 X 1935" and set in the top of a concrete post.

ELEVATION: 3738.027 feet or 1139.353 meters (C & T-2)

R 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 6.1 miles northwest along U. S. Highway 421 from the post office at Mountain City, 5.4 miles eastward from junction with Tennessee State Highway 91, at the edge of a fill, on the outside of a horseshoe curve, 33 feet south of the center line of the highway, and about 1-1/2 feet higher than the highway. A standard USC&GS disk stamped "R 110 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot south of monument.

ELEVATION: 3503.467 feet or 1067.859 meters (C-2)

R 111 (USC&GS, 1935; Johnson County, Tennessee)

Located along blacktop road 1.0 mile northwest of TVA bridge across Roan Creek Embayment, 23 feet northeast of center line road and in fence line, 15 yards southeast of field entrance, on road along Doe Creek between State Highway 67 and Roan Creek Embayment, 1.0 mile southeast of Little Doe Baptist Church. A standard USC&GS disk stamped "R 111 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot northeast of monument.

ELEVATION: 1999.825 feet or 609.548 meters (C & T-2)

R 123 (USC&GS, 1935; Avery County, North Carolina)

Located at Beach Creek, about 2.6 miles southeast along State Highway 603 from the North Carolina-Tennessee State line, at the junction of a farm road leading southwest, at the northwest corner of the junction, about 235 feet west of a railroad crossing, at a general store, 11.9 feet north of the southeast corner of the building, 10 feet east of the front door, directly in front of the store and in a granite outcrop. A standard USC&GS disk stamped "R 123 1935".

ELEVATION: 2516.580 feet or 767.055 meters (T-2)

RPQ 4 (TVA, 1937; Johnson County, Tennessee)

Located on extreme high point of first peak north of Butler. From Elizabethton, follow U. S. Highway 19E to Hampton. Turn left at Hampton and follow State Highway 67 to Whiting. Leave Highway 67, follow gravel road along left bank of Watauga river to Butler, go along Main Street at Butler at post office, go 0.2 miles, turn left, go 0.1 miles and cross railroad. Turn right first road after crossing railroad, going 0.3 miles to barn lot. Turn up hollow to Y-road intersection, taking right road, follow road 0.6 miles to second farm house. Leave car follow old trail used for skidding logs. A 1- by 1-inch angle iron on extreme high point in clump of loose rock.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,180,253.8; Y = 736,187.8 (T-4 Unchecked Position)

ELEVATION: 2603 feet (T-5)

RPQ 9 (TVA, 1937; Johnson County, Tennessee)

Located in cornfield and apple orchard on southwest end of Dry Run Mountain, under second apple tree south of woods in most western row of trees. To reach from Butler post office, drive northeast 0.2 mile to cross-street, turn southeast and follow road 0.7 mile to road fork, turn right across Roan Creek bridge and drive 2.5 miles to T-road north on top of ridge in saddle. Turn left 0.3 mile to gate near cemetery, leave car, walk up nose of ridge 3000 feet to open field. A 1- by 1-inch angle iron.

Reference Mark 1: 5.61 feet N 41° W to apple tree.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,193,179.1; Y = 731,337.1 (T-4)

ELEVATION: 2850 feet (T-5)

RPQ 10 (TVA, 1937; Johnson County, Tennessee)

Located in south portion of Quadrangle 214 SW, on top of sharp knoll under 12-inch pine. To reach from Butler Post Office, drive northeast 0.2 mile to cross-street, turn southeast and follow road 0.7 mile to road fork, turn right across Roan Creek bridge and drive 3.3 miles to T-road at river, turn right 0.8 mile to bridge over Watauga River, cross bridge and continue 2.1 miles along road to hairpin turn, continue on around point of ridge 1.3 miles to small drain crossing road. Leave car and walk 1/2 mile up ridge to top and station, 4.56 feet N 25° W of 12-inch pine, and 13.40 feet S 84° W of 5-inch pine. A 1- by 1-inch angle iron.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,193,933.4; Y = 715,006.4 (T-4)

ELEVATION: 2894 feet (T-5)

RPQ 11 (TVA, 1937; Johnson County, Tennessee)

Located in the extreme northwest point of narrow rock ridge, about 1 mile west of Stone Mountain. To reach from Butler Post Office, go north 0.2 mile to crossroads, turn right and follow 0.6 mile to fork at sawmill, take right fork across Roan Creek 3.4 miles to T-roads, turn left and follow up Big Dry Run Creek road, 2.8 miles side road right, turn right and follow (main travel road) 0.5 mile side road right (main road), continue straight ahead on trail 0.3 mile to gate. Go through gate, follow along edge of brush to gate. Continue on trail 0.2 mile to creek fork and end of truck travel. Follow right hand logging trail up hill to open field, follow nose of slope across hill about 2000 feet to wood and follow nose of slope 1500 feet to station. A 1- by 1-inch angle iron.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,206,347.6; Y = 726,476.2 (T-4)

ELEVATION: 3200 feet (T-5)

RPQ 12 (TVA, 1937; Johnson County, Tennessee)

Located 1/2 mile southwest of Locust Gap, on Stone Mountain, 100 feet northwest of North Carolina-Tennessee state line, on north end of nose of slope in an open field. To reach from Grove Creek School, follow highway south 0.1 mile to road right. Turn right and follow downstream to T-road .2 mile. Turn right and follow gravel road 4.4 miles to forks, thence 0.2 miles to forks, thence right 2.6 miles to Beaverdam Church and dirt road left, go left 1 mile on dirt road to forks, thence left 0.4 mile to crossroads on top of hill, thence

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right up rocky road 0.9 mile to Locust Gap, turn left up old field road and follows 0.7 mile to end. Station is 500 feet up hill on north side of rail fence, 103.32 feet N 24° E of 6-inch maple, 53.10 feet due east of 8-inch oak, 17.10 feet S 12° E of 3-inch hickory. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,220,539.8; Y = 733,986.2 (T-4)
ELEVATION: 3884 feet (T-5)

RFQ 13 (TVA, 1937; Watauga County, North Carolina)

Located on west end of a bare ridge (west fork of Fork Ridge). To reach from Butler, go south on U. S. Highway 421 8.9 miles side road right, turn right follow gravel road 3.1 miles to forks. Take right fork (dirt) 2.8 miles to crossroads. Turn left and follow 0.9 miles to last house. Station is about 2000 feet S 30° W on end of bare ridge about 300 feet west of point of ridge, 102.95 feet N 23° E of 10-inch oak, and 116.8 feet N 30° W of 6-inch oak. A 1- by 1-inch angle iron.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,233,030.9; Y = 727,960.8 (T-4)
ELEVATION: 3923 feet (T-5)

RFQ 14 (TVA, 1937; Watauga County, North Carolina)

Located 0.8 mile (airline) west of Mast in south end of wooded ridge 25 feet north of fence corner. To reach from state line on U. S. Highway 421, go south 4.6 miles to crossroads at Mast, turn right and follow Laurel Branch road 1.8 miles to fork, take left fork, follow lane 0.4 mile to house and take fork right 0.2 mile to top of saddle and gate. The station is about 1000 feet east on top of hill, 72.55 feet N 03° E of 24-inch elm, and 10.45 feet N 87° W of fence post. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,240,762.4; Y = 717,967.9 (T-4)
ELEVATION: 3631 feet (T-5)

RFQ 15 (TVA, 1937; Watauga County, North Carolina)

Located on top of a ridge, on west side of a fence about 1500 feet north of store in Mabel. To reach from Mabel, take side road in front of church, go north up North Fork Creek road 0.2 mile to bridge. The station is N 10° E about 500 feet on top of ridge, 6.3 feet S 10° W of 6-inch beech, and 11.8 feet N 65° W of 8-inch beech. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,245,798.4; Y = 729,007.7 (T-4)
ELEVATION: 3105 feet (T-5)

RFQ 23 (TVA, 1937; Johnson County, Tennessee)

Located on a wooded ridge about 2.5 miles (airline) south of Shouns about halfway between top and bottom of ridge. To reach from Shouns, at crossroads, go south 2.6 miles to red store and sign board. Station is about 2000 feet N 80° E, 11.6 feet S 22° W of 4-inch oak, 8.8 feet S 80° E of 3-inch oak, and 8.6 feet S 65° E of 6-inch oak. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,245,031.2; Y = 767,257.9 (T-4)
ELEVATION: 2883 feet (T-5)

RFQ 24 (TVA, 1937; Johnson County, Tennessee)

Located about 3.0 miles (airline) east of Mountain City, about halfway up a bare ridge 15 feet south of fence and 300 feet west of a cultivated field. To reach from Shouns, at crossroads going northeast, go 2.0 miles to fork, turn left and go 1.0 mile to farm road left and bridge. Turn left, then right through gate and go 0.2 mile to west side of corn field. Station is about 700 feet to the northwest, 19.0 feet S 50° W of a 3-inch oak, 15.1 feet S 10° W of a 6-inch oak, and 225.1 feet N 50° E of a 10-inch oak. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,245,901.3; Y = 777,681.6 (T-4)
ELEVATION: 2631 feet (T-5)

RFQ 25 (TVA, 1937; Johnson County, Tennessee)

Located in open pasture field about 2 miles (airline) southwest of Shouns, 300 feet east of Roan Creek, 200 feet north of a farm road. To reach from crossroads at Shouns, go southwest on gravel road 2.0 miles to farm road at left. Turn left on farm road, ford creek and continue on farm road 0.6 mile. Station is 200 feet north of apple tree at left side of farm road, 169.3 feet N 36° E of forked apple, and 145.5 feet S 76° E of bush at ditch. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,231,651.2; Y = 766,195.4 (T-4)
ELEVATION: 2255 feet (T-5)

RFQ 26 (TVA, 1937; Johnson County, Tennessee)

Located on top of hill in burned woods about 3.5 miles (airline) southwest of Mountain City. To reach from Mountain City, drive west on State Highway 67, 2.8 miles to intersection with gravel road to left at Harbin's Store. Proceed left on gravel road 1.2 miles to T-road at woods. Turn right on mountain road and continue 0.9 mile to trail leading to right just over top of ridge. Proceed on foot along trail 0.8 mile to top of saddle. Then turn right and continue up ridge to top of hill. Station is on top of highest point in fairly open burned woods, 20.4 feet N 70° W of 8-inch dead locust, 8.0 feet S 74° E of 18-inch dead oak, and 17.7 feet N 45° E of 6-inch dead oak. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,218,370.0; Y = 772,943.0 (T-4)
ELEVATION: 3420 feet (T-5)

RFQ 41 (TVA, 1937; Johnson County, Tennessee)

Located about 8 miles (airline) west of Mountain City, on top of wooded hill with thick pine woods on the west side. To reach from Mountain City, drive west on State Highway 67, 7.2 miles to Y-road intersection with farm road. Turn sharply to left and continue 0.1 mile and turn right. Proceed to end of farm road 0.8 mile to house, then walk due east 2000 feet across ridge to trail in second hollow. Follow trail south to pine woods 1000 feet, then walk up hill at left to top. Station is on north end of top of ridge at intersection of three ridges, 21.6 feet N 12° W of 10-inch pine (blazed), 17.4 feet N 34° E of 12-inch pine (blazed), and 15.1 feet N 75° E of 10-inch pine (blazed). A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,203,173.2; Y = 764,339.3 (T-4)
ELEVATION: 3117 feet (T-5)

RFQ 42 (TVA, 1938; Johnson County, Tennessee)

Located near large stump on top of bare hill about 10 miles (airline) west of Mountain City. To reach from Mountain City, drive west on Highway 67, 9.2 miles to crossroads, turn right on farm road and continue 0.3 mile to house, then walk up hill to left (west) to fence line on top of hill. Station is 3 feet south of very large stump about 20 feet north of fence on peak of hill,

2.6 feet S 30° E of 60-inch stump, 20.8 feet S 75° W of fence post, and 23.4 feet N 30° W of fence post. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,190,039.5; Y = 763,095.0 (T-4)
ELEVATION: 2369 feet (T-5)

RFQ 43 (TVA, 1938; Johnson County, Tennessee)

Located about 6.5 miles (airline) west of Mountain City, on top of hill in edge of woods. To reach from Mountain City, drive 5.5 miles southwest on State Highway 67 to crossroads. Turn right and continue 0.2 mile to Y-road, turn left and proceed 0.6 mile to barn, then walk up hill at right past barn and follow ridge toward Iron Mountain range 1500 feet to hollow. Cross hollow and walk up wooded ridge to station. Station is 10 feet northeast of fence, in woods line and about 30 feet east of large oak on fence line, 25.4 feet S 34° E of 20-inch oak, 15.9 feet S 43° W of 30-inch oak (dead), and 15.9 feet N 34° E of fence post. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,202,703.1; Y = 777,899.4 (T-4)
ELEVATION: 2737 feet (T-5)

RFQ 44 (TVA, 1938; Johnson County, Tennessee)

Located about 2 miles (airline) southeast of Mountain City. To reach from crossroads at Shouns, drive on gravel road northeast 0.9 mile to house opposite large ditch at right side of road leading down field. Walk up hill and hogback at left through woods and through three small cultivated fields on ridge. Station is on top of hill on ridge about 100 feet in woods above north edge of last field, 14.4 feet N 68° W of 15-inch black oak, 14.3 feet N 50° W of 8-inch white oak, and 7.3 feet S 20° E of 4-inch black oak. A 1- by 1-inch angle iron.

GRID POSITION (Tennessee): X = 3,240,454.1; Y = 778,871.2 (T-4)
ELEVATION: 3415 feet (T-5)

S 58 (USC&GS, 1934; Johnson County, Tennessee)

Located at Shouns, on U. S. Highway 421, 75 yards north of a crossroad leading to the old Southern Railway station, across the highway from a large barn, 20 feet north of a sheet metal garage, and 22 feet west of the center line of the highway. A standard USC&GS disk stamped "2344.415 S 58 1934" and set in the top of a concrete post, projecting 6 inches above ground.

ELEVATION: 2344.241 feet or 714.526 meters (C-2)

S 61 (USC&GS, 1934; Watauga County, North Carolina) *NE-PA 11-22-90*

Located at Sherwood, 18.7 miles southeast from Mountain City, on U. S. Highway 421, at Cove Creek School, on the northwest side of highway and on front campus of school, 300 feet south of two-story school gymnasium, 250 feet northeast of two-story corn mill, 175 feet south of main entrance to one-story brick middle school building, 110 feet northwest of one-story brick home on opposite side of highway, and 75 feet east of main entrance to two-story brick southwest end of school building, on front fence of campus and near highway end of walkway to main entrance to two-story brick school building, 73.3 feet S 35° 00' E of northeast corner of two-story school, and 89.2 feet N 53° 00' E of southeast corner of two-story school. A standard USC&GS bronze bench mark set in concrete monument.

ELEVATION: 2696.674 feet or 821.948 meters (C-2)

S 103 (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.7 miles southeast along State Highway 91 from the intersection of U. S. Highway 421 at Shady Valley, thence about 4.8 miles southeast along the Doe Valley-Holston Mountain road (gravel), about 3.1 miles northeast of Pandora, at the intersection of the Pandora road, about 50 yards southeast of the center line of the Pandora road, 26-1/2 feet west of the center line of the Doe Valley road, 2 feet north of a fence line and about 1 foot higher than the road. A standard USC&GS disk stamped "S 103 1935" and set in the top of a concrete post.

Report on Condition (TVA, 1939): Monument broken and still in place. Elevation probably good for third or fourth-order levels.
ELEVATION: 2507.298 feet or 764.226 meters (C-2)

S 103 X (USC&GS, 1935; Johnson County, Tennessee)

Located about 2.2 miles northeast of Pandora. To reach from main crossroad of U. S. Highway 421 and State Highway 91, go southwest along State Highway 91, 3.7 miles to crossroad, turn left on gravel road and go 5.7 miles to mark. Monument is now in right-of-way fence line at garden gate of N. W. Robinson. A standard USC&GS disk stamped "S 103 X 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot east of monument.

Reference Mark 1: 13.5 feet Southwest to southeast corner garage.
ELEVATION: 2417.840 feet or 736.959 meters (C-2)

S 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, at the junction of the Bulldog Creek road, on a hilltop, about 475 feet west of 750 feet northwest of Center View School on a hilltop, about 475 feet west of the junction of the roads, about 160 feet northwest of a 12-inch walnut tree and a 20-inch locust tree, 77.7 feet west of the northeast corner of a wooden bridge over a creek, 16 feet north of the center line of the road and between the road and the fence line. A standard USC&GS disk stamped "S 104 1935" and set in the top of a concrete post.

ELEVATION: 2922.678 feet or 890.834 meters (C & T-2)

S 104 X (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, thence about 1.0 mile southwest along the Bulldog Creek road, about 600 feet southeast of a cemetery, at the Glendale School, in the front yard, about 220 feet north of the boys' outdoor toilet, 41.8 feet northwest of the northwest corner of the school building, at the west edge of the grounds and in the north-south fence line. A standard USC&GS disk stamped "S 104 X 1935" and set in the top of a concrete post.

ELEVATION: 3083.091 feet or 939.728 meters (C & T-2)

S 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.1 miles northwest along U. S. Highway 421 from the post office at Mountain City, 23 feet north of center line of U. S. Highway 421, 8.6 miles eastward from junction with State Highway 91, about 0.6 mile west of the intersection of Liberty Road, at the Claude Cress residence, about 48 yards southeast of the northwest corner of the house, about 23 yards west of a concrete abutment, about 31 yards northwest of a 24-inch walnut tree, about 12 yards north of the center line of the highway, and about 1 foot lower than the highway. A standard USC&GS disk stamped "S 110 1935" and set in the top

of a concrete post. Steel post with control marker sign set 1 foot north of monument.

ELEVATION: 2593.167 feet or 790.399 meters (C-2)

S 450 (TVA, 1937; Johnson County, Tennessee)

Located at Mile 48.9 Watauga River, on left bank, near upstream end of first concrete step (from road to yard) in front of white house. A chiseled square.

ELEVATION: 1971.34 feet (T-3)

S 455 (TVA, 1937; Johnson County, Tennessee)

Located at Mile 51.1 Watauga River, left bank, along Whiting Lumber Co. Railroad, 150 feet upstream from left end of low trestle, 4.5 feet west of west rail of railroad, and 2.0 feet higher than rail. A chiseled line around high point in rock outcrop.

ELEVATION: 1970.47 feet (T-3)

S 456 (TVA, 1937; Johnson County, Tennessee)

Located at Mile 51.5 Watauga River, right bank along Whiting Lumber Co. Railroad, 400 feet upstream from right end of low trestle, 1.5 feet south of south rail of railroad and 1.0 foot lower than rail. A chiseled circle around high point of boulder.

ELEVATION: 2003.52 feet (T-3)

S 468 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 57.7 Watauga River, left bank, 0.3 mile upstream from mouth of Beaverdam Creek, 100 feet upstream from ford and on riverside of road along river. A chiseled square on top of flat rock outcrop projecting 6 inches.

ELEVATION: 2522.38 feet (T-3)

S 469 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 58.0 Watauga River, left bank, 300 feet downstream from house, and 2 feet downstream from the downstream riverward corner of garage. A chiseled square on top of rock outcrop level with ground.

ELEVATION: 2571.10 feet (T-3)

S 470 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 58.5 Watauga River, right bank, about 200 feet from river, 400 feet downstream from sawmill, at edge of woods, 12 feet downstream from an 18-inch hemlock tree and 2.5 feet upstream from a 6-inch hemlock tree. A chiseled square on rock outcrop.

ELEVATION: 2534.53 feet (T-3)

S 471 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 59.1 Watauga River, left bank, 4 feet out in river from bank, 400 feet upstream from barn and at downstream end of woods. A chiseled square on top of flat rock projecting 1.0 foot above low water.

ELEVATION: 2545.55 feet (T-3)

S 472 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 59.6 Watauga River, left bank, 0.8 mile downstream from Greer Bridge at Y-road intersection, 10 feet landward from center line of State Highway 603 and level with road surface. A chiseled square on rock outcrop.

ELEVATION: 2600.07 feet (T-3)

S 473 (TVA, 1937; Watauga County, North Carolina)

Located at Mile 60.1 Watauga River, left bank, 4 feet upstream from path leading from State Highway 603 to house, 700 feet downstream from Greer Bridge over Watauga River, 600 feet downstream from foot-bridge over Watauga River, 8 feet landward from center line of highway, 2.5 feet higher than its surface, 40 feet south of Watauga River, 20 feet downstream from dirt road leading south, and 15 feet south center line highway. A chiseled square on top of flat rock outcrop.

ELEVATION: 2598.77 feet (T-3)

STONE (USC&GS, 1934; Watauga-Johnson Counties, North Carolina-Tennessee)

Located about 1-1/2 miles southwest of Baker Gap, on summit of second knob northwest of southeast end of Stone Mountain range on Tennessee-North Carolina State line, on drainage divide, 30 feet northwest of highest part of summit, 18 feet northwest of large dead snag, and 13-1/2 feet west-northwest of triangle-blazed white oak tree. To reach from junction of U. S. Route 421 and N. C. Route 194 at Sugar Grove post office, cross bridge on Route 194, turn right on to George Gap road and go 4.6 miles, keep to left and go 1.65 miles, turn right at brick church and go 2.35 miles, turn sharply to left up hill and go 0.4 mile to home of Mr. Eggers and end of truck travel, follow old road 100 yards from house, turn right onto dim path and go 0.4 mile up mountain to top of ridge, and go left 0.5 mile along ridge to summit and station site. Surface mark is a standard disk triangulation station mark wedged in a drill hole in a boulder. Underground mark is a standard disk triangulation station mark wedged in a drill hole in a boulder 3 feet below the ground.

Reference marks are standard disk reference marks with the arrows pointing toward the station each wedged in a drill hole in outcropping bedrock. Reference Mark 1 is in large rock outcrop down northwest slope and 201.85 feet from station in geodetic azimuth 188°54'. Reference Mark 2 is in large rock outcrop down southwest slope and 115.99 feet from station in geodetic azimuth 125°47'. Azimuth Mark is a standard disk reference mark with the arrow pointing toward the station set at the center of the top of a concrete cylinder, 80 feet southwest of sharp curve in road leading to station, 0.4 mile north of small settlement, 40.8 feet southwest of fence corner, 14.5 feet east-southeast of center line of road, and between 1.5 and 1.75 miles from station.

NOTE: Description applies to conditions existing before the construction of Watauga Dam.

GEODETIC POSITION: Lat. = 36°18'51.500"; Long. = 81°52'44.071" (C-2)

To Station	Azimuth	Back Azimuth	Log. Meters	Miles
Doe	184°58'34.1"	4°58'59.9"	4.097543	7.8
Trout	244°52'13.3	65°00'34.9	4.367161	14.5
Bald of Rich (USGS)	270°51'41.1	90°57'26.7	4.163175	9.0
Grandfather	347°54'09.0	167°56'08.4	4.382778	15.0
Azimuth Mark	266°01'21.4			

GRID POSITION (Tennessee): X = 3,213,862.88; Y = 725,297.77 (C-2)

Grid Azimuth to Azimuth Mark: 263°36'35.9".

ELEVATION: 4218 feet (T-5)

T 58 (USC&GS, 1934; Johnson County, Tennessee)

Located at Mountain City, on State Highway 91, in the high school yard, about 40 feet west of the center line of the highway, and at the north edge of the cement walk leading to the east entrance of the school building. A standard USC&GS disk stamped "2428.729 T 58 1934" and set in the top of a concrete post, projecting about 4 inches above ground.

ELEVATION: 2428.555 feet or 740.225 meters (C-2)

T 61 (USC&GS, 1934; Watauga County, North Carolina)

Located at Mast, 16.3 miles southeast from Mountain City, at intersection Laurel Branch county road and U. S. Highway 421, on property of James B. Mast, on the east side of highway, 375 feet southwest of old barn, 110 feet southeast of large two-story farm house of three gables, 100 feet west of barn, and 10 feet southwest along fence line from gate, in small clover field on the west fence line, 4.5 feet S 38° 30' W of south gate post on east side of highway, and 49.3 feet S 39° 00' E of south gate post on the west side of highway. A standard USC&GS bench mark set in concrete monument.

ELEVATION: 2768.840 feet or 843.944 meters (C-2)

T 103 (USC&GS, 1935; Johnson County, Tennessee)

Located at Pandora, about 0.1 mile northeast along State Highway 67 from the general store, at the intersection of a county road, about 31 yards south of the entrance to the Frank Stout residence, 55 feet east of the center of the intersection, 26 feet southeast of the center line of the highway and about 1 foot higher than the highway. Now located across State Highway 67 from the Edgar Bumgardner store and Sinclair Station, 3.4 miles north of Little Doe Baptist Church. A standard USC&GS disk stamped "T 103 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot east of monument.

Report on Condition (TVA, November 1959): Monument pushed over and loose. ELEVATION: 2222.971 feet or 677.563 meters (C-2)

T 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.4 mile south along U. S. Highway 421 from Key Station, at the junction of the Bulldog Creek road, on the W. S. Wilson property, about 500 feet northwest of Center View School on a hilltop, about 215 feet east of a wooden bridge over a creek, about 210 feet south across the highway from a 14-inch locust tree, 37 feet north of the center line of the road, 32 feet west of the center line of the highway, at a fence corner, near a pole and in the fence line on the west side of the highway. A standard USC&GS disk stamped "T 104 1935" and set in the top of a concrete post.

ELEVATION: 2924.174 feet or 891.290 meters (C & T-2)

T 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.9 mile north along U. S. Highway 421 from the post office at Mountain City, 10.9 miles eastward from junction with State Highway 91, or about 0.5 mile west of the junction of State Highway 67, about 210 yards north of the private driveway to the two-story home of Mrs. R. H. Butler, 21 feet west of the center line of the highway, at a fence line and about level with the highway. A standard USC&GS disk stamped "T 110 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot south of monument.

ELEVATION: 2422.492 feet or 738.377 meters (C-2)

T 111 (USC&GS, 1935; Johnson County, Tennessee)

Located on northwest side State Highway 67, 2.7 miles north of Little Doe Baptist Church, 18 feet north of telephone pole, 140 feet north of intersection with gravel road, and 58 yards south of driveway to C. A. Thomas residence. A standard USC&GS disk stamped "T 111 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot west of monument.

ELEVATION: 2190.875 feet or 667.780 meters (C-2)

TBM (TVA, 1937; Watauga County, North Carolina)

Located at Mile 60.3 Watauga River, left bank, 600 feet downstream from Greer Bridge, 15 feet downstream from road leading to abandoned house and 20 feet landward from center line of State Highway 603. A chiseled square on rock outcrop.

ELEVATION: 2589.48 feet (T-3)

U 61 (USC&GS, 1934; Watauga County, North Carolina)

Located 14.5 miles southeast from Mountain City and 0.5 mile south from Mabel, at intersection Long Branch farm road and U. S. Highway 421, on property of A. N. Church, on the west side of the highway, 250 feet southwest of timber bridge on farm road, 225 feet south of 1-1/2-story farm house, 80 feet northwest of barn by roadside, 50 feet northeast of one-story farm house, 50 feet east of barn in apple grove, and 50 feet west of road intersection, inside farm yard between lawn and boulder covered hog lot, 81.7 feet N 36° 00' W of northeast corner of barn by roadside, 49.3 feet N 27° 00' E of northeast corner of one-story farm house, and 51.9 feet S 81° 00' E of southeast corner of barn. A standard USC&GS bronze bench mark set in concrete monument.

ELEVATION: 2907.173 feet or 886.108 meters (C-2)

U 103 (USC&GS, 1935; Johnson County, Tennessee)

Located about 2.5 miles northwest along a county road from Doeville Post Office, thence about 1.1 miles north along State Highway 67, about 180 yards south of the entrance to the J. W. Estep residence, 31.2 feet east of the center line of the highway, 1 foot west of a fence line and about level with the highway. A standard USC&GS disk stamped "U 103 1935" and set in the top of a concrete post. Steel post with control marker sign set in fence line 1 foot east of monument.

ELEVATION: 2123.503 feet or 647.245 meters (C-2)

U 110 (USC&GS, 1935; Johnson County, Tennessee)

Located at Shouns, about 200 yards southwest of the Southern Railway station, about 60 yards south of bridge 125.7, about 40 yards east of a bungalow, about 19 yards southeast of a road crossing, 18.6 feet east of the east rail, 44.6 feet west of a road paralleling the track and about 3 feet lower than the track. A standard USC&GS disk stamped "U 110 1935" and set in the top of a concrete post.

ELEVATION: 2299.789 feet or 700.977 meters (C-2)

U 111 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1 mile north along a county road from the junction of State Highway 67 at Pandora, about 90 yards west of the entrance to the home of Kemp Love, about 28 yards northeast of the east bank of Campbell Creek, 35 feet northeast of a spring house, at a fence line and about 1 foot higher than the road. A standard USC&GS disk stamped "U 111 1935" and set in the top

of a concrete post.

NOTE: Searched for but not recovered, November 1959. Believed destroyed in rebuilding of road.

ELEVATION: 2297.217 feet or 700.193 meters (C-2)

V 103 (USC&GS, 1935; Johnson County, Tennessee)

Located about 2.0 miles northwest along a county road from Doeville Post Office, at Little Doe Baptist Church, about 37 yards northwest of the church entrance, 25 feet northeast of the center line of the road, in the northwest corner of the church yard, at a fence line, and about 1 foot higher than the road. A standard USC&GS disk stamped "V 103 1935" and set in the top of a concrete post.

NOTE: Searched for but not recovered, January 1957.

ELEVATION: 2041.259 feet or 622.177 meters (C-2)

V 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 2.3 miles southeast along the Dry Hill road from the junction of a county road about 1 mile east of Butler, about 700 feet south of an old farm building about 500 feet north of a lone 36-inch pine tree, about 450 feet northwest of a small locust grove, about 400 feet northeast of a lone 30-inch poplar tree, at the junction of a road leading north to Bradley School, at a fence corner, 25 feet south of the center line of the main road, 17.4 feet east of a pole, in a northeast-southwest fence line, and about level with the road. A standard USC&GS disk stamped "V 104 1935" and set in the top of a concrete post.

NOTE: Searched for but not recovered, October 1959. Possibly destroyed when new intersection was built.

ELEVATION: 2235.796 feet or 681.472 meters (C & T-2)

V 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 1 mile northeast along the Southern Railway from the station at Maymead, about 1.8 miles southwest of Rhouns, about 175 yards northeast of milepost 124, about 100 yards west of a large barn, about 33 yards northwest of bridge 124.1, at a dirt road crossing, 27-1/2 feet northwest of the center of the crossing, 12.6 feet northwest of the northwest rail and about level with the track. A standard USC&GS disk stamped "V 110 1935" and set in the top of a concrete post.

ELEVATION: 2256.085 feet or 687.656 meters (C-2)

V 111 (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.7 miles southwest along State Highway 91 from the intersection of U. S. Highway 421 at Shady Valley, thence about 3.7 miles southeast along the Doe Valley-Holston Mountain gravel road, at the J. E. Buchanan residence, about 65 yards southeast of the house, 29.5 feet east of the junction of a private road leading northwest to the house, 14 feet southeast of the center line of the road, 5.5 feet southeast of a fence line, and about 3-1/2 feet higher than the road, about 60 feet northwest of Buchanan Cemetery. A standard USC&GS disk stamped "V 111 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot south of monument.

ELEVATION: 2850.463 feet or 868.823 meters (C-2)

V 111 X (USC&GS, 1935; Johnson County, Tennessee)

Located about 3.7 miles southwest along State Highway 91 from the intersection of U. S. Highway 421 at Shady Valley, thence about 2.5 miles southeast along the Doe Valley-Holston Mountain gravel road, 24 feet northwest of the crossing of a small stream, 18 feet northwest of the center line of the road, 12-1/2 feet west of the creek and about 3 feet higher than the road. A standard USC&GS disk stamped "V 111 X 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot west of monument.

ELEVATION: 3285.046 feet or 1001.284 meters (C-2)

W 3 (TVA, 1937; Watauga County, North Carolina)

Located 6 miles (airline) northwest of Boone, 0.75 mile north of Sugar Grove Post Office, 700 feet northwest of Cove Creek Consolidated School, 800 feet west of U. S. Highway 421, on cleared hillside, 105 feet south of highest point, 15 feet east of the north-south fence line. A 3/4-inch square headed bolt with cross, projecting 2 inches above the ground.

Reference Mark 1: 25.07 feet N 34° W to nail in fence post.

Reference Mark 2: 42.34 feet N 83° 30' E to nail in 18-inch oak.

Reference Mark 3: 54 feet S 24° W to nail in 8-inch oak.

GRID POSITION (Tennessee): X = 3,242,132.6; Y = 709,073.0 (T-4)

W 3 to Bald of Rich: 228°02'24".

ELEVATION: 2892 feet (T-5)

W 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.9 mile northeast along the Southern Railway from the station at Neva, about 90 yards south of a large barn, at the crossing of a dirt road, 19.2 feet southeast of the southeast rail, 19 feet northeast of the center line of the dirt road and about 1 foot lower than the track. A standard USC&GS disk stamped "W 110 1935" and set in the top of a concrete post.

ELEVATION: 2183.700 feet or 665.593 meters (C & T-2)

W 111 RESET (USC&GS, 1933; Reset TVA, 1959; Johnson County, Tennessee)

From junction routes U. S. Highway 421, State Highway 91 and State Highway 133, go southwest on State Highway 91 3.7 miles to cross road and mark, set on southeast side State Highway 91 49 feet from center line and on southwest side of gravel road to Doeville 20 feet from center line. Monument is 2.5 feet above level of gravel road. A standard TVA tablet stamped "W 111 1935 RESET 1959" and set in concrete monument. Steel post with control marker sign set 1 foot south of monument.

ELEVATION: 3513.81 feet (T-3)

WSR 16 (TVA, 1942; Johnson County, Tennessee)

Located 1-1/3 miles southwest of BM H 111, 1-2/3 miles northwest of Gregg, 250 feet northeast of woods, 20 feet from 1975 contour, and 49.5 feet S 73° W from 2-inch cedar. A standard TVA tablet stamped "WSR 16" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,180,075.3; Y = 727,007.8 (T-4)

Grid Azimuth to WSR 15 (distance 2528.6 feet): 83°02'.

ELEVATION: 1985.7 feet (T-4)

WSR 17 (TVA, 1942; Johnson County, Tennessee)

Located 1/2 mile northwest of Stump Knob, 1-1/2 mile northwest of Buntontown, Tennessee, on northeast point of Big Ridge, 25 feet from 1975 contour, 16 feet west of fence line, 150 feet east of edge of woods, 25.5 feet due north

from fence post, 16.1 feet N 48° W from fence post, and 23.5 feet S 84° W from fence post. A standard TVA tablet stamped "WSR 17" and set in concrete monument.

ELEVATION: 1985.2 feet (T-4)

WSR 18 (TVA, 1942; Johnson County, Tennessee)

Located 1/2 mile north of Stump Knob, 1-1/8 mile southwest of BM H 111, on southwest point of ridge, 15 feet above 1975 contour, set in rock outcrop, 50 feet west of fence line, 10.9 feet S 24° E from 12-inch cedar, 12.7 feet S 55° W from 3-inch oak, and 25.1 feet S 88° W from 4-inch oak. A standard TVA tablet stamped "WSR 18" and set in rock outcrop.

ELEVATION: 1988.2 feet (T-4)

WSR 19 (TVA, 1942; Johnson County, Tennessee)

Located 3/4 miles northeast of Buntontown, 1 mile southeast of Gregg School, 40 feet southwest of 1975-contour, 3 feet northwest of farm road, and 600 feet southwest of Watauga River, set on nose of ridge in field. A standard TVA tablet stamped "WSR 19" and set in concrete monument.

Report on Condition: Searched for but not recovered, January 1950 and October 1959. Location of monument is in cultivated field. Monument has apparently been destroyed during plowing of field.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

ELEVATION: 1980.6 feet (T-4)

WSR 20 (TVA, 1942; Johnson County, Tennessee)

Located 4 miles northeast of Butler, 2 miles northwest of Buntontown, 8 feet northwest of contour 1975, 200 feet northwest of Watauga River, set on nose of ridge in woods, 100 feet northwest of rock road, 9 feet N 28° 30' E of a 3-inch water oak, 22 feet N 51° 30' W of a 7-inch dogwood, and 6 feet S 40° W of a 10-inch post oak. A standard TVA tablet stamped "WSR 20" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

ELEVATION: 1982.7 feet (T-4)

WSR 21 (TVA, 1942; Johnson County, Tennessee)

Located 2 miles northeast of Buntontown Baptist Church, 12 feet southeast of 1975 contour, set on nose of ridge in a cedar grove, 200 feet northeast of Gregg's Branch, 800 feet southeast of Watauga River, 19.6 feet S 33° E of a 10-inch cedar, and 14.9 feet N 47° 30' E of a 3-inch cedar. A standard TVA tablet stamped "WSR 21" and set in limestone rock.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,192,131.1; Y = 723,408.7 (T-4)

Grid Azimuth to WSR 22 (distance 1339.0 feet): 118°10'.

ELEVATION: 1980.7 feet (T-4)

WSR 22 (TVA, 1942; Johnson County, Tennessee)

Located 1/4 mile northeast of Dugger Bridge, about 25 feet northwest of 1975 contour, about 800 feet northwest of Sugar Grove Church, 250 feet northeast of Watauga River, 150 feet northeast of Dugger Cemetery, set on nose of ridge in field, 58 feet N 30° 30' W of a 6-inch locust, and 80.6 feet N 83° W of an 18-inch white oak. A standard TVA tablet stamped "WSR 22" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,190,950.7; Y = 724,040.8 (T-4)

Grid Azimuth to WSR 21 (distance 1339.0 feet): 298°10'.

ELEVATION: 1981.9 feet (T-4)

WSR 23 (TVA, 1942; Johnson County, Tennessee)

Located 1 mile northwest of Cowanstown, about 12 feet southwest of 1975 contour, 75 feet southwest of Watauga River, 100 feet northeast of Cowanstown Road, and set on nose of ridge in field. A standard TVA tablet stamped "WSR 23" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,194,465.3; Y = 722,573.1 (T-4)

Grid Azimuth to WSR 24 (distance 732.3 feet): 231°35'.

ELEVATION: 1987.0 feet (T-4)

WSR 24 (TVA, 1942; Johnson County, Tennessee)

Located 1/2 mile west of Cowanstown, 100 feet northwest of Watauga River, 40 feet northeast of 1975 contour, 40 feet west of woods line, and set on nose of ridge in cultivated field. A standard TVA tablet stamped "WSR 24" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,195,039.2; Y = 723,628.0 (T-4)

Grid Azimuth to WSR 23 (distance 732.3 feet): 51°35'.

ELEVATION: 1981.6 feet (T-4)

WSR 25 (TVA, 1942; Johnson County, Tennessee)

Located 2000 feet southeast of Cowanstown, 200 feet southwest of Watauga River, about 25 feet southwest of contour 1975, about 100 feet northeast of fence line on nose of ridge, 86 feet west of a fence post, and 100 feet S 33° W of a fence post. A standard TVA tablet stamped "WSR 25" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.

GRID POSITION (Tennessee): X = 3,197,741.7; Y = 720,622.4 (T-4)

Grid Azimuth to WSR 26 (distance 536.6 feet): 282°14'.

ELEVATION: 1980.6 feet (T-4)

WSR 26 (TVA, 1942; Johnson County, Tennessee)

Located 200 feet northeast of Watauga River, on west side of ridge in open pasture, 20 feet northeast of 1975 contour, 400 feet northwest of point of ridge, 14.9 feet south of 3-inch locust, and 21 feet north of an 8-inch locust. A standard TVA tablet stamped "WSR 26" and set in concrete monument.

GRID POSITION (Tennessee): X = 3,198,266.1; Y = 720,508.6 (T-4)

Grid Azimuth to WSR 25 (distance 536.6 feet): 102°14'.

ELEVATION: 1984.2 feet (T-4)

WSR 33 (TVA, 1942; Carter County, Tennessee)

Located 1.1 miles northwest of Stump Knob, 1 mile southeast of Elizabeth-ton 20, on south side of long point, 50 feet southwest of large rock outcrop,

200 feet west of edge of woods, and 20 feet from 1975 contour. A standard TVA tablet stamped "WSR 33" and set in concrete monument.
ELEVATION: 1989.6 feet (T-4)

WSR 34 (TVA, 1942; Carter County, Tennessee)

Located 1/4 mile southwest of the intersection of Elk River and Watauga River, 1/2 mile southeast of Elk Mills Road, 8 feet southeast of 1975 contour, 200 feet more or less southeast of Elk River, on nose of ridge in woods, 12.3 feet N 74° E of a 6-inch poplar, 9.7 feet S 06° E of a 10-inch linden, and 12.3 feet S 40° W of an 8-inch black oak. A standard TVA tablet stamped "WSR 34" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
ELEVATION: 1984.9 feet (T-4)

WSR 35 (TVA, 1942; Johnson County, Tennessee)

Located about 20 feet northwest of 1975 contour, about 800 feet northwest of Lower Elk Baptist Church, about 700 feet southwest of Elk River, on nose of ridge in woods, 50 feet southwest of woods line, 12.2 feet N 03° W of a 4-inch locust, and 10.2 feet N 41° W of a 5-inch linden. A standard TVA tablet stamped "WSR 35" and set in concrete monument.

GRID POSITION (Tennessee): X = 3,179,615.2; Y = 718,163.2 (T-4)
Grid Azimuth to WSR 36 RBSST (distance 699.6 feet): 225°17'.
ELEVATION: 1982.2 feet (T-4)

WSR 36 RBSST (TVA, 1942, Reset 1947; Carter County, Tennessee)

To reach station from Butler Post Office, go south 3.7 miles along Elk River, on Sugar Hollow road. Monument is set on steep wooded bluff on right bank of Elk River, about 600 feet from Lower Elk School. A standard TVA tablet stamped "WSR 36" and set in concrete monument.

Reference Mark 1: 21.25 feet South to nail in 4-inch ash.
Reference Mark 2: 11.10 feet Northwest to nail in 3-inch red oak.
Reference Mark 3: 3.15 feet North to nail in 3-inch walnut.
NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,180,112.4; Y = 718,655.4 (T-4)
Grid Azimuth to WSR 35 (distance 699.6 feet): 45°17'.
ELEVATION: 1983.0 feet (T-4)

WSR 41 (TVA, 1942; Johnson County, Tennessee)

Located 1/2 mile east of Butler, 500 feet northwest of top of hill, on bench of ridge in open pasture, 400 feet southwest of woods line, 400 feet northwest of fence line, 120 feet southeast of 1975 contour. A standard TVA tablet stamped "WSR 41" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,181,041.3; Y = 731,482.5 (T-4)
Grid Azimuth to WSR 42 (distance 3722.5 feet): 129°17'.
ELEVATION: 1984.5 feet (T-4)

WSR 42 (TVA, 1942; Johnson County, Tennessee)

Located 800 feet southwest of top of ridge, on nose of ridge, 1/2 mile north of Butler, 20 feet northwest of 1975 contour, 18.7 feet S 19° 30' W of 12-inch pine, 15.5 feet S 72° E of 10-inch pine, and 18.7 feet N 82° 30' E of 9-inch pine. A standard TVA tablet stamped "WSR 42" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,178,160.3; Y = 733,839.7 (T-4)
Grid Azimuth to WSR 41 (distance 3722.5 feet): 309°17'.
ELEVATION: 1983.2 feet (T-4)

WSR 43 (TVA, 1942; Johnson County, Tennessee)

Located 1/2 mile southwest of Little Dry Run road, 1000 feet east of Roan Creek, in open field, 300 feet northwest of top of ridge, 40 feet northwest of fence line, 15 feet east of 1975 contour, 52.6 feet N 60° E of 10-inch cedar, 47.1 feet N 27° 30' E of 4-inch ironwood, and 60.5 feet N 11° W of 6-inch cherry. A standard TVA tablet stamped "WSR 43" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
ELEVATION: 1980.5 feet (T-4)

WSR 44 (TVA, 1942; Johnson County, Tennessee)

Located 1000 feet northwest of Curtis Spring Branch, 1200 feet northwest of Roan Creek Road, on southeast side of ridge in woods, 150 feet northwest of cultivated line, 15 feet northwest of 1975 contour, 9.6 feet S 21° E of 4-inch black oak, 18.8 feet S 81° E of 5-inch white oak, and 11.1 feet N 50° 30' E of 5-inch black oak. A standard TVA tablet stamped "WSR 44" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
ELEVATION: 1980.9 feet (T-4)

WSR 45 (TVA, 1942; Johnson County, Tennessee)

Located 0.4 miles northeast of Roan Creek, on nose of ridge in woods, 200 feet south of open field, 5 feet vertical from 1975 contour, 15 feet horizontal from 1975 contour, 13.1 feet S 34° W of 12-inch white pine, 9.5 feet N 63° W of 14-inch white pine, and 33.1 feet N 26° 30' E of 24-inch white pine. A standard TVA tablet stamped "WSR 45" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,188,656.7; Y = 738,636.1 (T-4)
Grid Azimuth to WSR 46 (distance 2993.2 feet): 128°28'.
ELEVATION: 1980.7 feet (T-4)

WSR 46 (TVA, 1942; Johnson County, Tennessee)

Located 0.2 miles northwest of Roan Creek, on nose of ridge in woods, 30 feet southwest of farm road, 15 feet west of 1975 contour, 12 feet N 60° E of 4-inch white oak, 12 feet S 58° E of 4-inch twin post oak, and 25 feet S 22° W of 4-inch triple post oak. A standard TVA tablet stamped "WSR 46" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,186,312.9; Y = 740,497.7 (T-4)
Grid Azimuth to WSR 45 (distance 2993.2 feet): 308°28'.
ELEVATION: 1980.8 feet (T-4)

WSR 47 (TVA, 1942; Johnson County, Tennessee)

Located 1/4 mile southeast of Roan Creek. To reach from Butler, go approximately 3 miles northeast of Roan Creek road to intersection of county road, follow this road 100 yards to open field, thence southwest 100 yards to monument. Station is on nose of ridge, in pasture, 30 feet southeast of fence line, 22.2 feet N 01° W of 4-inch hickory, 26.2 feet N 20° E of 7-inch pine, and 22.6 feet N 45° E of 10-inch white oak. A standard TVA tablet stamped "WSR 47" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,191,351.4; Y = 742,989.8 (T-4)
Grid Azimuth to WSR 48 (distance 1427.3 feet): 110°58'.
ELEVATION: 1980.4 feet (T-4)

WSR 48 (TVA, 1942; Johnson County, Tennessee)

Located 300 feet northwest of Roan Creek, 650 feet northwest of Roan Creek road. To reach from Butler, go approximately 2.7 miles northeast to Roan Creek ford, cross ford, travel approximately 0.30 miles northeast along farm lane to monument, set in nose of ridge, in woods, 15 feet northwest of 1975 contour, 20.2 feet S 69° E of 12-inch white oak, 26.6 feet S 56° E of 4-inch white pine, 14.1 feet S 07° W of 4-inch maple. A standard TVA tablet stamped "WSR 48" and set in concrete monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
GRID POSITION (Tennessee): X = 3,190,018.7; Y = 743,500.8 (T-4)
Grid Azimuth to WSR 47 (distance 1427.3 feet): 290°58'.
ELEVATION: 1981.6 feet (T-4)

WSR 50 (TVA, 1942; Johnson County, Tennessee)

Located 1/4 miles northwest of Doeville Post Office, 800 feet northwest of Doe Creek, 2000 feet northeast of Roan Creek, 75 feet northwest of 1975 contour, 400 feet southeast of corner of fence, on nose of ridge in field. A standard TVA tablet stamped "WSR 50" and set in concrete monument. Steel post and control marker sign set 1.3 feet west of monument.

NOTE: Description applies to conditions existing before construction of Watauga Dam.
Report on Condition (TVA, October 1956): Monument has been pushed over slightly by field machinery.
GRID POSITION (Tennessee): X = 3,193,861.7; Y = 747,391.4 (T-4)
Grid Azimuth to WSR 52 (distance 1597.7 feet): 288°18'.
ELEVATION: 1981.3 feet (T-4)

WSR 51 (TVA, 1942; Johnson County, Tennessee)

Located 400 feet southeast of Doeville Post Office, 75 feet southeast of Grindstaff lane, 20 feet southwest of 1975 contour, 125 feet northwest of fence line, on nose of ridge in field, 81 feet S 50° W of a fence post, and 72 feet S 72° W of a persimmon tree. A standard TVA tablet stamped "WSR 51" and set in concrete monument. Steel post with control marker sign set 1.7 feet south of monument.

GRID POSITION (Tennessee): X = 3,196,008.4; Y = 746,387.4 (T-4)
Grid Azimuth to WSR 52 (distance 805.6 feet): 128°34'.
ELEVATION: 1981.1 feet (T-4)

WSR 52 (TVA, 1942; Johnson County, Tennessee)

Located near new TVA bridge over the Roan Creek Embayment of Watauga Lake, at the junction of the county road down Little Doe Creek with the county road going up the north side of Roan Creek, on the west side of the T-road intersection, 87.4 feet N 40° W of northwest corner of bridge, 101 feet N 53° W of northeast corner of bridge, 28.0 feet S 60° E of 8-inch hickory tree on bank, and 48 feet S 70° W of center line Doe Creek road. A standard TVA tablet stamped "WSR 52" and set in concrete monument. Steel post with control marker sign set 1.5 feet west of monument.

GRID POSITION (Tennessee): X = 3,195,378.6; Y = 746,889.8 (T-4)
Grid Azimuth to WSR 50 (distance 1597.7 feet): 108°18'.
Grid Azimuth to WSR 51 (distance 805.6 feet): 308°34'.
ELEVATION: 1983.0 feet (T-4)

X 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 0.5 mile southwest along the Southern Railway from the station at Neva, about 55 yards northeast of the crossing of the Pine Grove Baptist Church road, 15 feet northwest of the northwest rail, 19 feet southeast of the center line of a road paralleling the track and about level with the track. A standard USC&GS disk stamped "X 110 1935" and set in the top of a concrete post.

ELEVATION: 2158.703 feet or 657.974 meters (C-2)

Y 104 (USC&GS, 1935; Johnson County, Tennessee)

Located about 4.2 miles southeast along the Gregg Branch county road from Dugger Bridge. From Tennessee State Highway 159 bridge over Elk River Embayment of Watauga Lake, go eastward along State Highway 159 a distance of 4.5 miles to gravel road, turn right and go 0.1 mile to mark at top of bank northwest of road, about 60 feet south of southwest corner 1-story frame dwelling, 50 feet west of two small barns, 24.9 feet south of the southwest corner of a smokehouse, 32.6 feet southwest of the southeast corner, near a gate and in a large granite boulder. A standard TVA disk stamped "Y 104 1935" and set in large buried boulder (tablet is about 0.5 foot below ground level). Steel post with control marker sign set 30.5 feet S 10° W of monument.

ELEVATION: 2598.876 feet or 792.139 meters (T-2)

Y 104 X (USC&GS, 1935; Johnson County, Tennessee)

Located about 5.1 miles southeast along the Gregg Branch county road from Dugger Bridge. From Tennessee State Highway 159 bridge over Elk River Embayment of Watauga Lake, go eastward along Highway 159 a distance of 5.3 miles to monument set 42 feet northwest of center line highway. Monument is 0.1 mile west of Tennessee-North Carolina State line, set at gate to field and 8 feet southeast of right-of-way fence line, on the outside of a curve, about 135 feet west of the timber line, 80 feet north of two apple trees and one walnut tree on the south side of the road, 20 feet west of an 8-inch forked cherry tree in a fence line, 14.4 feet west of the northeast gatepost and near the southwest gatepost. A standard TVA disk stamped "Y 104 X 1935" and set in the top of a concrete post. Steel post with control marker sign set 1 foot north of monument.

ELEVATION: 2670.392 feet or 813.937 meters (T-2)

Y 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 4.0 miles east along the Southern Railway from Doe Station

(Doeville Post Office), about 27 yards south of Roan Creek paralleling the track, 10.7 feet south of the south rail, in rock at the base of a cliff, and about 1 foot higher than the track. A standard USC&GS disk stamped "Y 110 1935" and set in rock.

ELEVATION: 2118.122 feet or 645.605 meters (C-2)

Z 110 (USC&GS, 1935; Johnson County, Tennessee)

Located about 2.0 miles northeast along the Southern Railway from Doe Station (Doeville Post Office), about 1/2 mile east of the bridge over Roan Creek, about 160 yards west of milepost 117, about 40 yards south of Roan Creek, 13.5 feet south of the south rail and about 2 feet higher than the track. A standard USC&GS disk stamped "Z 110 1935" and set in the top of a concrete post.

ELEVATION: 2053.785 feet or 625.995 meters (C-2)