

THE FOLLOWING IS A SUGGESTED
METHOD NO. 1 FOR THE TRIANGULATION

Select two U. S. Coast and Geodetic triangulation stations whose geodetic Azimuth and distance are known.

Flag the county line witness post and the two stations that form the base.

Three stations form a triangle, A. B. and C.

Set up transit over Station A, read and record Vernier A, in degrees, minutes and seconds. With telescope erect sight Station B. and turn horizontal angle to C. (The point desired) read and record the measured angle in degrees, minutes and seconds, also read and record Vernier B. in degrees, minutes and seconds. Repeat the operation three times.

Invert the telescope and revolve Vernier Plate 180° and again sight on Station B. repeating same three times.

Proceed to Station B. take down initial readings, sight Station A. with telescope erect and turn horizontal angle to C. Do this three times with telescope erect and three times with telescope inverted and revolving plate 180° .

Proceed to Station C. setting on $00^{\circ} 00' 00''$ if preferred.

Sight Station A. and turn horizontal angle to Station B. repeat the operation as at Stations A. and B. Sum up the readings at each station and divide by 6, thus giving a mean angle for each.

Now add the three mean angles and apply $1/3$ of the error of closure to each angle.

They should equal $180^{\circ} 00' 00''$ thus closing the triangle.

Compute Geodetic Azimuth A. to C. from the forward Azimuth, because of convergence, compute geodetic Azimuth B. to C. from the back Azimuth.

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METHOD NO. 2

When the county line point has been located in the center of a large body of water, at its intersection with the shore of the Gulf of Mexico, and its position marked on the controlled Mosaic photograph, and has been agreed upon, and whose X and Y coordinates are acceptable, it becomes necessary therefore, to set two county line witness posts, one on the right bank and one on the left bank of said body of water, and fixing their Geodetic positions, to be of use later, and giving calculated Azimuth and distance to said designated and coordinate county line point, with two azimuths made to local objects to perpetuate their positions.

To fix the geographic positions of said witness posts, select two U. S. Coast and Geodetic triangulation stations whose forward and back azimuths and distance are known. Occupy one station, selecting a water tank for the other station, using this as a base in the triangle, with telescope normal or direct sight forward station, and turn three horizontal angles to said witness post, read and record each in degrees, minutes and seconds, revolve vernier plate 180° and invert telescope, and again sight forward station and read and record three horizontal angles. Sum all readings and divide by six, thus giving a mean angle from base line to said witness post.

The mean angle will be added or subtracted from the base of the forward Geodetic Azimuth.

If conditions permit only one tie from Coast Station to said post, and no additional check is possible, then said line will be double chained, otherwise it would be left hanging.

If it is found that conditions are favorable for a further check by triangulation, by occupying said post, and turning six angles between water tank and initial station, the third angle in the triangle may be computed, noting the back Azimuth on said base line, because of its convergency.

The above method may be applied for tieing in the other post on right bank of said large body of water possibly by using another base line.

Examination of the controlled mosaic for its topographic features, with the correctness of the county line witness post or posts, with the accepted coordinate position of said county line point being previously marked on said mosaic, will rest with the surveyor.

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