

Retracement of W.Bdy.T.35 N.,R.56 E.
on the Ruby Valley Guide Meridian.

1.

Chains

Survey commenced Sept. 21, 1915, and executed with a Young and Sons transit No.6517 with Smith solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The instrument was approved by Asst. Supervisor of Surveys G. D. D. Kirkpatrick. I examine the adjustments of the transit and correct the level and collimation errors, then to test the solar apparatus, by comparing its indications, resulting from solar observations made during p.m. and a.m. hours, with a meridian determined by observations on Polaris I proceed as follows:

At the cor. of secs. 5, 6, 31 and 32; on the S. Bdy. of the township, in latitude 40°50'30"N., longitude 115°42'W., at 4 h 0 m, p.m., l.m.t., I set off 40°50'30"N. on the lat. arc, 0°52'N. on the decl. arc, and determine a meridian with the solar, and mark a point thereof on a stone firmly set in the ground 5 chs. N. of the cor.

At 7 h 34 m p.m., l.m.t., I observe Polaris at eastern elongation in accordance with Manual of Instructions, and mark a point in the line thus determined on a peg driven in the ground 5 chs. N. of my station.

Sept. 21, 1915.

Sept. 22, 1915.

At 7 h 30 m, a.m., l.m.t., I lay off the azimuth of Polaris 1°31' to the west, and mark the meridian thus determined by cutting a small groove in the stone set Sept. 21, on which the meridian falls 1.2 ins. east of the mark determined by the solar.

At 8 h 0 m a.m., l.m.t., I set off 40°50'30"N. on the lat. arc, 0°36'N. on the decl. arc and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of my station, this mark falls 0.3 ins. east of the meridian established by the Polaris observation. The solar apparatus by p.m. and a.m. observations, defines positions for meridians, respectively about 1'3" west and 0'16" east of the meridian established by the Polaris observations, therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian is N.18°10'W. the angle thus determined gives the magnetic declination 18°10'E.

The lines of the survey were measured with a 5 chain steel tape and clinometer.

Sept. 22, 1915.

Sept. 28, 1915.

At the cor. of Tps. 34 and 35 N., Rgs. 55 and 56 E., at 9 h 0 m, a.m., l.m.t., I set off 40°50'30"N. on the lat. arc, 1°45'S. on the decl. arc, and determine a meridian with the solar.

Thence I retrace N. between secs. 31 and 36, on the W. Bdy. of the township on the Ruby Valley Guide Meridian.

Since I have but the one set of chainmen, I measure the distances twice with this one set and take the mean of their measurements, instead of using two sets.

Difference between two measurements of 40.00 chs. by the same set of chainmen is 6 lks., position of middle point

By 1st measurement is 39.97 chs.

By 2nd measurement is 40.03 chs., the mean of which is 40.00

I search diligently but find no 1/4 sec. cor.

Difference between two measurements of 80.76 chs. by the same set of chainmen is 6 lks.; position of middle point