

Resurvey of W. Bdy. T. 30 N., R. 47 E.

1

Chains

Survey commenced Oct. 6, 1914 and executed with a Young and Sons transit No. 8518, with 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 Assistant 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 S. E. cor. of T 30 N R 46 E., previously described, I set off $40^{\circ} 24' N.$ on the lat. arc, $5^{\circ} 4' S.$ on the decl. arc, and at 4h., p.m., l.m.t., 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. The latitude of this cor. is $40^{\circ} 24' N.$, longitude $116^{\circ} 44' W.$

At 6h. 34m., 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.

Oct. 6, 1914

Oct. 7, 1914.

At 7h. 30m., a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ} 31'$ to the west and mark the meridian thus determined by cutting a small groove in the stone set Oct. 6, on which the meridian falls, 0.9 ins. west of the mark determined by the solar,

At 8h. a.m., l.m.t., I set off $40^{\circ} 24' N.$ on the lat. arc, $5^{\circ} 19' S.$ 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 0.1 ins. west of the meridian established by the Polaris observation. The solar apparatus by p.m. and a. m. observations, defines positions for meridians, respectively about $0^{\circ} 54''$ east and $0^{\circ} 05''$ west of the meridian established by the Polaris observation; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8h. 15m., a.m., is $N. 18^{\circ} 20' W.$, the angle thus determined gives the mag. decl. $18^{\circ} 20' E.$

From the S. E. cor. of T 30 N R 46 E., I now retrace N. bet. secs. 31 and 36; on the W. bdy. of T 30 N., R. 47 E.

40.00
80.00

I search diligently, but find no trace of the $\frac{1}{4}$ sec. cor. I search diligently, but find no trace of the cor. of secs. 25, 30, 31 and 36.

489.60

I continue my line N., retracing the W. bdy. of T. 30 N., R. 47 E. At intervals of 40.00 chs. I search diligently, but find no corners till at

From the S. E. cor. of T 29 N R 46 E., I find the closing corner of Tps. 30 N., Rgs. 46 and 47 E., falling 2.57 chs. E. of my line. It is a stake 2 ins. diam., by 16