

Chains

Survey commenced Nov. 11, 1914 and executed with a Young and Sons transit No. 8518 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 lat. and decl. 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. hrs. with a meridian determined by observations on Polaris, I proceed as follows:

At the standard cor. of Tps. 31 N., Rgs. 48 and 49 E., previously described, latitude $40^{\circ}30'N.$, longitude $116^{\circ}30'W.$; I set off $40^{\circ}30'N.$ on the lat. arc, $17^{\circ}22'S.$ on the decl. arc and at 3h. 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.

Nov. 11, 1914.

Nov. 12, 1914.

At 4h. 3m., a.m., l.m.t., I observe Polaris at western 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 the corner.

At 8h. 30m., a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ}30'$ to the east, and mark the meridian thus determined, by cutting a small groove in the stone set Nov. 11, on which the meridian falls 0.6 ins. east of the mark determined with the solar.

At 9h., a.m., l.m.t., I set off $40^{\circ}30'N.$ on the lat. arc, $17^{\circ}34'S.$ 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 the cor.; this mark coincides with the meridian established by the Polaris observation. The solar apparatus by p.m. and a.m. observations, defines positions for meridians, respectively about $0'32''$ west and coinciding with 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 9h. 15m., a.m., l.m.t., is $N.18^{\circ}20'W.$; the angle thus determined gives the mag. decl. $18^{\circ}20'E.$

The lines of this survey were measured with 5 ch. steel tape and clinometer.

From the standard cor. of Tps. 31 N., Rgs. 48 and 49 E. I retrace,

N. on the E. bdy. of the tp., bet. secs. 31 and 36.

40.00 Search diligently, find no old $\frac{1}{4}$ sec. cor.

80.00 Search diligently, find no old cor. for secs. 25, 30, 31 and 36.

Continue line, retracing,

N. on the E. bdy. of the tp. bet. secs. 25 and 30.

40.00 Search diligently, find no old $\frac{1}{4}$ sec. cor.

80.00 Search diligently, find no old cor. for secs. 19, 24, 25 and 30.