

Retracement of Frac. N. Bdy. T.29 N., R. 54 E.

1.

Chains

Survey commenced July 15, 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 observation on Polaris, I proceed as follows:

At the cor. of T.30 N., Rgs. 53 and 54 E., re-established by me, at 4 h 0 m, p.m., l.m.t., I set off $40^{\circ}25'N.$ on the lat. arc, $21^{\circ}36'N.$ 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.
July 15, 1915.

July 16, 1915.

At 0h 1 m, a.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 the corner.

At 7 h 0 m, a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ}31'$ to the west and mark the meridian thus determined on the stone set July 15, this point falls on the mark determined by the solar.

At 7 h 50 m, a.m., l.m.t., I set off $40^{\circ}25'N.$ on the lat. arc, $21^{\circ}30'N.$ on the decl. arc and mark a point in the meridian determined with the solar on the stone already set 5 chs. N. of the corner. This point coincides with the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations, defines positions for meridians coinciding with 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 at 8 h 0 m, a.m., l.m.t., is $N.18^{\circ}10'W.$, the angle thus determined gives the magnetic declination $18^{\circ}10'E.$

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

37.53
78.81

From the cor. of T.30 N., Rgs. 53 and 54 E., East on a retracement on the south bdy. of sec. 31. Search diligently but find no trace of the $\frac{1}{4}$ sec. cor. Find the cor. of secs. 5, 6, 31 and 32, falling 1.67 chs. S. of line. It is a limestone $22 \times 14 \times 9$ ins. marked with 5 and 1 notches on opposite edges and set in a mound of stone. The course of this line is $S.88^{\circ}47'E.$, and the length 78.83 chs.

41.02

From the cor. of secs. 5, 6, 31 and 32, East on a retracement on the south bdy. of sec. 32. The old $\frac{1}{4}$ sec. cor. falls 72 lks. S. of line. A volcanic stone $17 \times 12 \times 8$ ins., marked $\frac{1}{4}$ on N. face and set in a mound of stone.

81.73

Find the cor. of secs. 4, 5, 32 and 33, falling 1.42 chs. S. of line. It is a redwood post 3×4 ins. by 18 ins. above ground, firmly set in the ground and marked with 2 notches on the W. and 4 notches on the E. edge, witnessed