

2.

East Boundary of T. 32 N., R. 57 E.

Chs.

and mark a point in the line thus determined, with a tack in a stake driven in the ground about 5 chs. N. of my station.

June 10: At 7 a.m., l. m. t., I lay off the azimuth of Polaris, $1^{\circ}31'$ to the west, and mark a point in the meridian thus determined by a tack in a stake firmly set in the ground about 5 chs. N. of my station.

At 7h 59m a.m., l. m. t., I set off $40^{\circ}35'$ N. on the lat. arc; $23^{\circ}02'$ N. on the decl. arc; and mark a point in the meridian determined with the solar, with a pencil on the stake already set 5 chs. N. of my station; this mark falls less than a minute west of the meridian established by the Polaris observation.

At 11h 59m a.m., l. m. t., I set off $23^{\circ}02\frac{1}{2}'$ N., on the decl. arc and observe the sun on the meridian; the resulting latitude is $40^{\circ}35\frac{1}{2}'$ N.

At 2h 59m p.m., l. m. t., I set off $40^{\circ}35'$ N., on the lat. arc; $23^{\circ}03'$ N. on the decl. arc; and mark a point in the meridian determined with the solar, with a pencil on the stake previously set; this mark practically coincides with the meridian established by the Polaris observation.

The solar apparatus by a.m. and p.m. observations, defines positions for meridians, practically coinciding with the meridian established from the Polaris observation; therefore I conclude that the adjustments of the instrument are satisfactory.

Test of Instrument No. 7517. July 6, 1916.

I examine the adjustments of the transit, find them correct, then to test the solar apparatus, by comparing its indications, resulting from solar observations made during a.m. and p.m. hours, with the meridian determined by observations on Polaris June 10, 1916, I proceed as follows:

At camp in the SW. quarter of sec. 34, T. 32 N., R. 57 E.; latitude $40^{\circ}35'$ N., longitude $115^{\circ}31'$ W., at 9h 05m a.m., l.m.t., I set off $40^{\circ}35'$ N. on the lat. arc; $22^{\circ}42'$ N. on the decl. arc; and mark a point in the meridian determined with the solar by a cross on the stake previously set 5 chs. N. of my station; this mark falls $\frac{1}{2}$ minute west of the meridian established by the Polaris observation.

At 12h 05m p.m., l. m. t., I set off $22^{\circ}41'$ N. on the decl. arc and observe the sun on the meridian; the resulting latitude is $40^{\circ}35'$ N.

At 3h 05m p.m., l. m. t., I set off $40^{\circ}35'$ N. on the lat. arc; $22^{\circ}40'$ N. on the decl. arc; and determine a meridian with the solar; the meridian thus determined practically coincides with the meridian established by the Polaris observation.

The error from a.m. and p.m. observations being not greater than $30''$ of arc, I conclude that the adjustments of the instrument are satisfactory.

From latitude tests taken whenever practicable and repeated tests on the Polaris meridian, the instruments were known to be in adjustment throughout the survey.

The measurements on this survey were taken with 5 ch. Lallie steel tapes and the slope angles determined by the use of Dietzgen clinometers.

East Boundary of T. 32 N., R. 57 E.

From the cor. of Tps. 31 and 32 N., Rs. 57 and 58 E. which is an iron post 3 ins. in diam., 12 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General,

North on a random line bet. secs. 31 and 36.

5.00 At this point the line passes over a cliff 200 ft. high, bearing E. 2.00 chs. and W. 3.50 chs.; and owing to a series of cliffs on the S. $\frac{1}{2}$ of this mile, I offset W. 6.19 chs., thence N.

40.00 At this point I offset E. 6.19 chs. and set temp. $\frac{1}{4}$ sec. cor.; thence N.