Survey commenced November 11, 1915, and executed with a Young and Sons light mountain transit, No. 8572, with solar attachment. The horizontal limb is provided with two double verniers, placed opposite to each other and 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 for use in this survey by the Assistant Supervisor of Surveys for this district. I examine the adjustments of the transit, and find them correct.

Nov. 11: To test the solar apparatus, by comparing its indications, resulting from solar observations made during a.m. and p.m. hours, with a meridian determined by observations made on Polaris, I proceed as follows: At the S.C. of T. 16 N., Rs. 38 and 39 E., in approximate latitude 39° 11'N., longitude 117° 39'W. I set off 39° 11' on the lat. arc; 17° 18'S. on the decl. arc; and at 3h 14m p.m., l.m.t., determine with the solar a meridian and mark the direction of the line thus determined by a nail driven in a box, set firmly in the ground, about 8 chs. N. of my station.

Nov. 11, 1915.

Nov. 12: At 4h 9m a.m.,l.m.t., by my watch, which carries correct l.m.t., I observe Polaris at approximate western elongation in accordance with Manual of Instructions and mark a point in the line thus determined, on a peg driven in the ground, about 8 chs. N. of my station.

At 8h 30m a.m.,l.m.t., I lay off the azimuth of Polaris, 1° 28¼' to the East and mark the meridian thus determined by a nail driven in the box set Nov. 11, on which the meridian falls 1' to the right of the mark determined by the solar.

At 8h 44m a.m.,l.m.t., I set off 39° 11' on the lat. arc; 17° 30½'S. on the decl. arc; and mark a point in the meridian determined with the solar by a nail in the box already set about 8 chs. N. of my station;this mark falls 30" to the left of the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations,defines positions for the meridian, respectively 1' and 30" to the left of the meridian established by the Polaris observation; therefore as the error does not exceed 1' of arc, I conclude that the adjustments of the solar are satisfactory.

No magnetic bearing taken, because of defective needle. A steel tape, 8 chains long, was used in the field work together with a clinometer for determining slope angles, and the reduced horizontal distances only appear in the field notes. The tape was tested, comparison being made with a steel standard tape 1 chain long, kept and used for that purpose.

RETRACEMENT OF EAST BOUNDARY OF T. 16 N.,R.38 E.

Nov. 11: At 8h 44m a.m.,l.m.t., I set off 39° 13½' on the lat. arc; 17° 14'S. on the decl. arc; and determine a meridian with the solar at the original cor. of secs. 13, 18, 19 and 24 on E. bdy. of T. 16 N., R. 38 E., which I find to be a granite stone 10x6x5 ins. marked with 3 notches on two opposite sides, lying on top of small mound of earth. No traces of pits left.

Thence, South, retracing bet. secs. 19 and 24.

At 40.00 chs. after careful and extended search, no trace of the old ¼ sec. cor., could be found.