

Retracement and Resurvey of W.Bdy.T.16 N.R.32 E.

1.

Survey commenced August 7, 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 Nevada and Utah. I examine the adjustments of the transit and find them correct.

Aug.7: 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 my camp situated near the center of sec. 5, in approximate latitude $39^{\circ}15'N.$, longitude $118^{\circ}25'W.$ I set off $39^{\circ}15'$ on the lat. arc; $16^{\circ}32\frac{1}{2}'N.$ on the decl. arc; and, at 4 h 36 m, 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 5 chs. N. of my station. At 10 h 31 m, p.m., l.m.t., by my watch, which carries correct l.m.t., I observe Polaris at eastern elongation in accordance with the Manual of Instructions, and mark a point in the line thus determined, on a peg driven in the ground, about 5 chs. N. of my station.

August 7, 1915.

Aug.8: At 7h 30m a.m., l.m.t., I lay off the azimuth of Polaris, $1^{\circ}28\frac{1}{2}'$ to the West, and mark the meridian thus determined by a nail driven in the box set Aug. 7, on which the meridian falls 1' to the right of the mark determined by the solar.

At 8h 6m a.m., l.m.t., I set off $39^{\circ}15'$ on the lat. arc; $16^{\circ}21\frac{1}{2}'N.$ on the decl. arc; and mark a point in the meridian determined with the solar, by a nail in the box already set about 5 chs. N. of my station; this mark falls $0^{\circ}45''$ 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 $45''$ to the left of the meridian established by the Polaris observation; therefore as the error is small, I conclude that the adjustments of the instrument are satisfactory. No magnetic bearing taken, because of defective needle.

A steel tape, 5 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 standard tape, 1 chain long, kept and used for that purpose.

RESURVEY OF WEST BOUNDARY OF T.16 N., R.32 E.

Aug.7: At 9h 6m a.m., l.m.t., I set off $39^{\circ}14'$ on the lat. arc; $16^{\circ}37'N.$ on the decl. arc; and determine a meridian at the original cor. of secs. 7, 12, 13 and 18 on W. Bdy. which I find to be a post 2x2 ins. x 2 ft. firmly set in a mound of earth, properly marked, but very dim; also a post 4 ins. square, 5 ft. long, set alongside, I reestablish cor. at same point as follows: Set an iron post 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, with brass cap mkd.,