

Retracement, Ruby Valley Guide Meridian, T. 8N., Rs. 55 and 56 E

Chains

Survey commenced October 25, 1915, and executed with a Young and Sons light mountain transit No. 8295, with 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 examined, tested on the true meridian at Salt Lake City, Utah, found correct and was approved by the Assistant Supervisor of Surveys for Utah and Nevada, May 14, 1915.

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 a meridian determined by observations on Polaris, I proceed as follows:

At camp in the center of sec. 15, T. 8 N., R. 55 E.; latitude  $38^{\circ} 33\frac{1}{2}' N.$ , longitude,  $115^{\circ} 46' W.$ ; at 5h 16m a.m., l.m.t., I observe Polaris at approximate Western elongation, in accordance with the Manual of Instructions, and mark a point in the line thus determined on a stake firmly driven in the ground  $5\frac{1}{2}$  chs. N. of my station.

At 6h 45m a.m., l.m.t., I lay off the azimuth of Polaris,  $1^{\circ} 27\frac{1}{2}'$  to the East and mark a point in the meridian thus determined by a nail driven in a stake, firmly set,  $5\frac{1}{2}$  chs. N. of my station.

At 7h 44m a.m., l.m.t., I set off  $38^{\circ} 33\frac{1}{2}' N.$  on the lat. arc;  $11^{\circ} 50' S.$ , on the decl. arc; and mark a point in the meridian determined with the solar by a cross on the stake already set  $5\frac{1}{2}$  chs. N. of my station; this mark coincides with the meridian established by the Polaris observation.

At 11h 44m a.m. l.m.t., I set off  $11^{\circ} 55' S.$ , on the decl. arc; and observe the sun on the meridian, the resulting lat. is  $38^{\circ} 33\frac{1}{2}' N.$

At 2h 44m p.m., l.m.t., I set off  $38^{\circ} 33\frac{1}{2}' N.$  on the lat. arc;  $11^{\circ} 57' S.$ , on the decl. arc; and mark a point in the meridian determined with the solar by a cross on the stake already set  $5\frac{1}{2}$  chs. N. of my station; this mark coincides with the meridian established by the Polaris observation.

The solar apparatus by a. m. and p. m. observations, defines positions for meridians, respectively 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 3h 15m p.m., is N.  $17^{\circ} 25' W.$ , the angle thus determined gives the magnetic declination  $17^{\circ} 25' E.$

A 5 ch. steel tape and clinometer was used on all measurements of this work.

October 25, 1915.

RETRACEMENT, RUBY VALLEY GUIDE MERIDIAN, T. 8N., Rs. 55 and 56 EAST

Oct. 27, 1915: At 8h 14m a.m., l.m.t., I set off  $38^{\circ} 29' N.$  on the lat. arc;  $12^{\circ} 32' S.$  on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1, 6, 7 and 12, T. 7 N., Rs. 55 and 56 E., which is a cedar post, 2 ins. square, 2 ft. above ground, firmly set and marked and witnessed as described by the Surveyor General. Thence I run

North on retracement of Ruby Valley Guide Meridian between secs. 1 and 6.

40.00 No traces found of old  $\frac{1}{4}$  secs. 1 and 6.  
Set a temporary point.

80.00 No traces of old cor. of Tps. 7 and 8 N., Rs. 55 and 56 E.  
Set a temporary point.