

Retracement Nevada-Utah State Line, Bet. M. Posts 177 and 183.

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Chains

Survey commenced May 24, 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 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 N. half of sec. 28, T. 10 N., R. 70 E.; latitude, $38^{\circ} 40' N.$, longitude, $114^{\circ} 07' W.$; I set off $38^{\circ} 40' N.$, on the lat. arc; $20^{\circ} 42\frac{1}{2}' N.$ on the decl. arc; and at 2h 57m p.m., l.m.t., determine a meridian with the solar and mark a point thereof, on a stake firmly driven in the ground 5 chs. N. of my station.

May 24, 1915.

May 25, 1915: Cloudy, therefore unable to observe Polaris; heavy rain all day.

May 25, 1915.

May 26, 1915: At 3h 21m a.m., l.m.t., I observe Polaris at approximate eastern elongation, in accordance with the Manual of Instructions, and mark a point in the line thus determined on a stake driven in the ground 5 chs. N. of my station.

At 7h 15m a.m., l.m.t., I lay off the azimuth of Polaris, $1^{\circ} 28'$ to the west and mark a point in the meridian thus determined by a cross on the stake set May 24, the same coinciding with the mark determined by the solar.

At 7h 57m a.m., l.m.t., I set off $38^{\circ} 40' N.$ on the lat. arc; $21^{\circ} 01\frac{1}{2}' N.$, on the decl. arc; and mark a point in the meridian determined with the solar by a cross on the stake already set 5 chs. N. of my station; this mark coincides with the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.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 8h 05m a.m., is $N. 16^{\circ} 50' W.$, the angle thus determined gives the mag. decl. $16^{\circ} 50' E.$

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

At 8h 57m a.m., l.m.t., I set off $38^{\circ} 45' N.$ on the lat. arc; $21^{\circ} 02' N.$, on the decl. arc; and determine a meridian with the solar at Mile Post No. 177 on the Nevada-Utah State line which is a cottonwood post 3x4 ins. 5 ft. above the ground, firmly set and marked and witnessed as described by the Surveyor General.

Thence I run

South, along Nevada-Utah line retracing 178th Mile.

Rolling land, dense greasewood and sage brush and scattering grass.

6.40 Big Springs Creek, 12 lks. wide, 3 ft. deep, course N.E.

11.45 Irrigation canal, (water), 12 lks. wide, 3 ft. deep, course N. E.

23.20 Ditch, 15 lks. wide, 3 ft. deep, with water, 5 lks. wide,