

Re-Survey of 7th Std. Par. N. through R. 46 E.

Chains

Survey commenced Oct. 21, 1913, and executed with a Young and Sons Light Mountain Transit No. 7147, 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 approved for this assignment by the Ass't. Supervisor of Surveys for Nevada.

All distances were measured with an 8ch. steel tape and the slope distances reduced to the horizontal by observing the vertical angle with a clinometer, reading to $\frac{1}{4}^{\circ}$, and the correction taken from a traverse table.

I examine the adjustments of the transit and correct the level and collimation errors; thence, 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 my camp which is located in the N.W. $\frac{1}{4}$ of Sec 15, T. 35 N. R. 46 E.; Latitude $40^{\circ} 54\frac{1}{2}'$ N., Longitude $116^{\circ} 53\frac{1}{2}'$ W.; I set off $40^{\circ} 54\frac{1}{2}'$ N. on the Lat. arc, $10^{\circ} 43'$ S. on the decl. arc; and at 4h. 0m. p.m., l.m.t., determine with the solar a meridian and mark a point thereof, on a stone firmly set in the ground, 5 chs. N. of my station.

Oct. 21, 1913.

Oct. 22: At 5h. 24^m a.m. by my watch, which is correct with l.m.t., I observe Polaris at western elongation, in accordance with the manual of Instructions, and mark a point in the line thus determined, on a peg driven in the ground, 5 chs. N. of my station.

At 6h. 0m. a.m., l.m.t., I lay off the azimuth of Polaris, $1^{\circ} 31\frac{1}{2}'$ to the east, and mark the meridian thus determined by cutting a small groove on the stone set Oct. 21, on which the meridian falls 0.3 ins. east of the mark determined by the solar.

At 8h. 0m. a.m., l.m.t., I set off $40^{\circ} 54\frac{1}{2}'$ N. on the lat. arc, $10^{\circ} 57'$ S. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of my station; this mark falls 0.2 ins. east of the meridian established by the Polaris observation.

The solar apparatus, by p.m. and a.m. observations, defines positions for meridians, respectively, about $16''$ west and $10''$ east of the meridian established by the Polaris observations; therefore, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian 8h. 30m. a.m. is N. $18^{\circ} 48'$ W.; the angle thus determined gives the mag. decl. $18^{\circ} 48'$ E.

Oct. 22, 1913.

Oct. 25; At the std. cor. to Tp. 36 N. Rgs. 45 and 46 E., which is a 30x10x10 ins. granite stone, marked and witnessed as described by the Surveyor General, I set off $40^{\circ} 56'$ N. on the lat. arc, $12^{\circ} 01\frac{1}{2}'$ S. on the decl. arc, and at 9h. 0m. a.m., l.m.t., determine with the solar a meridian. Thence I retrace E. on a blank line along the 7th. Std. Par. N., but after diligent search, I find no evidence of closing cors., old $\frac{1}{4}$ sec. or sec cors., until at

160.62

Fall 85 lks. N. of the old Std. cor. to secs. 32 and 33, which is a willow stake, showing 30 ins. above ground, marked and witnessed as described by the Surveyor General.

I re-establish the cor. at this point as follows:

Set an iron post, 3ft. long, 3 ins. diam., 24 ins. in ground for Std. cor. to secs. 32 and 33, with brass cap marked:

T36N	R46E
S32	S33
SC	