

Chains

Survey commenced Oct. 21, 1913, and executed with a Young & 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 Asst. Supervisor of Surveys for Nevada. All distances were measured with an 8 ch. 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; then, to test the solar apparatus by observing 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 NW $\frac{1}{4}$ of Sec. 15, T. 35 N., R. 45 E., Lat. $40^{\circ}54\frac{1}{2}'$ N., Long. $116^{\circ}53\frac{1}{2}'$ 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 4 h 0 m 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 5 h 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 6 h 0 m A.M., l.m.t., I set 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 in the stone set Oct. 21, on which the meridian falls 0.3 ins. east of the mark determined by the solar.

At 8 h 0 m 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 cutting 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 at 8 h 30 m A.M., is N. $18^{\circ}48'$ W., the angle thus determined gives the Mag. Decl. $18^{\circ}48'$ E.

At the cor. to Tps. 35 N., Rs. 45 and 46 E., re-established by me Oct. 3, I set off $40^{\circ}51'$ N. on the lat. arc, and $10^{\circ}59'$ S. on the decl. arc, and at 9 h 0 m A.M., l.m.t., determine with the solar a meridian. Thence I retrace E. along the S. Bdy. of T. 35 N., R. 46 E. but fail to find any old $\frac{1}{4}$ sec. or sec. cors. until at Fall 43 lks. N. of the cor. to secs. 3, 4, 33 and 34, which is a broken willow stake set in ground and an 18 in. piece beside it, marked with 3 notches on two opposite sides, with other markings undecipherable. Faint traces of mound of earth and pits.

Set an iron post 3 ft. long, 3 ins. diam., 24 ins. in ground for cor. to secs. 3, 4, 33 and 34, with brass cap mkd: