

Chs.

Survey commenced June 5, 1914, and executed with a Young and Sons light mountain transit No. 6517, with Smith 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 24, 1914. 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 observation on Polaris, I proceed as follows:

At my camp in the SE. quarter of sec. 16, T. 1 N., R. 55 E.; latitude $37^{\circ}56'N.$; longitude $115^{\circ}47'W.$; at 2 h 40 m A.M., 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 stake driven in the ground 6 chs. N. of my station.

At 6 h 30 m A.M., l.m.t., I lay off the azimuth of Polaris $1^{\circ}27\frac{1}{2}'$ to the west and mark a point in the true meridian thus determined on a stake driven in the ground, 6 chs. N. of my station.

At 7 h 58 m A.M., l.m.t., I set off $37^{\circ}56'N.$ on the lat. arc; $22^{\circ}31'N.$ on the decl. arc, and determine a meridian with the solar; the meridian thus determined coincides with the meridian established by the Polaris observation.

At 11 h 58 m A.M., l.m.t., I set off $22^{\circ}32'N.$ on the decl. arc, and observe the sun on the meridian; the resulting latitude is $37^{\circ}56'$.

At 2 h 28 m P.M., l.m.t., I set off $37^{\circ}56'N.$ on the lat. arc; $22^{\circ}32\frac{1}{2}'N.$ on the decl. arc; and determine a meridian with the solar; the meridian thus determined coincides with the meridian established by the Polaris observation.

The solar apparatus by A.M. and P.M. observations coincide 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 2 h 40 m P.M., l.m.t. is $N.16^{\circ}45'W.$; the angle thus determined gives the magnetic declination $16^{\circ}45'E.$

A five-chain tape and clinometer were used on all measurements of this work. June 5, 1914.

June 9, 1914: At 9 h 29 m A.M., l.m.t., I set off $37^{\circ}53'N.$ on the lat. arc; $22^{\circ}55'N.$ on the decl. arc; and determine a meridian with the solar at the standard cor. of secs. 33 and 34 on the S. Bdy. of the township, heretofore described.

Thence I run

$N.0^{\circ}16'E.$ between secs. 33 and 34.

Over rolling land through medium undergrowth of shadscale and short salt grass.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap mkd:

S33 $\frac{1}{4}$ | S34
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and raise a mound of stone 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

43.00 Enter dense undergrowth of sagebrush, 2 ft. high, leaving