

Retracement of E. Bdy. T.30 N., R.51 E.

1.

Chains

Survey commenced July 23, 1915, and executed with a Young and Sons, 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 approved by C. D. D. Kirkpatrick, Asst. Supervisor of Surveys for Utah and Nevada.

The lines of this survey were measured with a 5 chain steel tape, and slope angles taken with a clinometer.

Where stones were set for corners instead of iron posts, it was done because there were no iron posts available at the time.

I examine the adjustments of the transit and correct the level and collimation errors, then, to test the solar apparatus by comparing its indications, resulting from solar observations made during p.m. and a.m. hours with a meridian determined by observation on Polaris, I proceed as follows:

At the cor. of Tps. 29 and 30 N., Rgs. 51 and 52 E., at 4 h 0 m p.m., l.m.t., latitude $40^{\circ}24'N.$, longitude $116^{\circ}11'W.$, I set off $40^{\circ}24'N.$ on the lat. arc, $20^{\circ}10'N.$ on the decl. arc, and determine a meridian with the solar and mark a point thereof on a stone firmly set in the ground 5 chs. north of the corner.

At 11 h 30 m p.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 peg driven in the ground 5 chs. N. of my station.

July 23, 1915.

July 24, 1915.

At 7 h 50 m a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ}31'$ to the west, and mark the meridian thus determined by cutting a small groove in the stone set July 23, on which the meridian falls 0.9 ins. east of the mark determined by the solar.

At 8 h 0 m a.m., l.m.t., I set off $40^{\circ}24'N.$ on the lat. arc, $20^{\circ}2'N.$ on the decl. arc, and determine a meridian with the solar, and mark a point thereof on the stone already set 5 chs. N. of my station. This point falls on the meridian determined by the Polaris observation.

The solar apparatus by p.m. and a.m. observations defines positions for meridians, respectively about $0^{\circ}47'W.$ and coincident with the Polaris observations; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h 0 m a.m. is $N.18^{\circ}25'W.$, the angle thus determined gives the magnetic declination as $18^{\circ}25'E.$

From the cor. of Tps. 29 and 30 N., Rgs. 51 and 52 E., which cor. is an iron post 3 ins. in dia., set 24 ins. in the ground with brass cap mkd:

T 30 N	
R51E	R52E
S36	S31
S1	S6
R51E	R52E

T 29 N

1915

with pits $24 \times 24 \times 12$ ins. on each line N., E. and W. 4 ft., and S. of post 8 ft. dist., and mound of earth $5\frac{1}{2}$ ft. base, $2\frac{1}{2}$ ft. high, S. of cor.,

I retrace

North between secs. 31 and 36, on the East Bdy. of the township.

39.90

Find old $\frac{1}{4}$ sec. cor., falling 15 lks. West of my line. It is an old cedar stake 20 ins. long, $1\frac{1}{2}$ ins. in dia., lying on the ground on an old mound of earth.