

## Retracement and Resurvey of T. 20-N., R. 24 East.

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## Chains

Survey commenced April 29, 1916 and executed with Young and Sons transit No. 8582 which is provided with a Smith Solar attachment. The instrument is provided with two double verniers placed opposite to each other and 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 the Assistant Supervisor of Surveys for the States of Utah and Nevada, conditionally upon a satisfactory field test.

Prior to the commencement of surveys on Group 38 the instrument was tested on the meridian at Reno, Nevada and found to be in a satisfactory condition for field work.

April 30, 1916: At a point in the town of Wadsworth in latitude  $39^{\circ} 38' N.$ , longitude approximately  $119^{\circ} 15' W.$ , after adjusting the line of collimation and the level error, I set off  $39^{\circ} 38' N.$  on the lat. arc;  $14^{\circ} 49\frac{1}{2}' N.$  on the decl. arc and at 8h. 00m., a.m., l.m.t., observe the sun through the solar and mark a point in the meridian thus determined by a tack driven in a hub set 5 chs. N. of my station.

At 4h. 00m., p.m., at the above station I set off  $39^{\circ} 37\frac{1}{2}' N.$  on the lat. arc;  $14^{\circ} 56' N.$  on the decl. arc and mark a point in the line determined with the solar by a tack driven in the hub already set 5 chs. N. of my station.

Apr. 30, 1916.

May 1, 1916: At 4h. 56m., a.m., l.m.t., which is the approximate time of the Eastern elongation of Polaris, I observe in accordance with the Manual of Instructions, and mark a point in the line thus determined by a tack driven in the top board of a board fence approximately 5 chs. N. of my station. I immediately reverse the telescope and make an observation similar to the first, the point falling 0.2 ins. E. of the previous observation. The mean of these two points is taken to mark the most easterly position of the star in azimuth.

At 7h. 00m., a.m., l.m.t., I lay off the azimuth of Polaris  $1^{\circ} 29'$  to the west and mark a point in the meridian thus determined by a tack driven in the hub already set 5 chs. N. of my station. This point falls .02 ins. W. of the point determined in the a.m. on the day previous, and 0.00 ins. E. of the point determined with the solar in the p.m. The solar apparatus by a.m. and p.m. observation defines positions for meridians respectively about  $0' 10'' E.$  and  $0' 00'' W.$  of the meridian determined by an observation on Polaris, therefore I conclude that the adjustment of the transit are satisfactory.

## Retracement and Resurvey of portions of Subs. T. 20N., R. 24E

Apr. 29, 1916: At the cor. of secs. 2 and 3 on the N. bdy. which is a basalt stone 6x8x9 ins. above ground, firmly set, marked and witnessed as described by the Surveyor General, I set off  $39^{\circ} 38' N.$  on the lat. arc,  $14^{\circ} 35' N.$  on the decl. arc and at 2h. 00m., p.m., l.m.t., determine with the solar a meridian.

Thence I retrace.

S. between secs. 2 and 3.

40.00

Set a temp. point for the  $\frac{1}{4}$  cor. of secs. 2 and 3. No traces of the old  $\frac{1}{4}$  sec. cor. are found after diligent search.

I continue my retracement S. on same line.

30.57

Intersect E. and W. line, 60 lks. W. of the old cor. of secs. 2, 3, 10 and 11 which is a lava rock 5x6x6 ins. lying on the surface of the ground, and marked with