

Retracement of South Boundary T. 22 N., R. 19 E.

1.

Chains Survey commenced October 28, 1914, and executed with a Young & Sons light mountain transit, No. 7192, with a 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 and tested on the meridian at Reno, Nevada, found correct, and approved by G.D.B. Kirkpatrick, Assistant Supervisor of Surveys, for Utah and Nevada, March 2, 1914.

Oct. 27, at my camp near the $\frac{1}{4}$ cor. of secs. 22 and 23, T. 22 N., R. 19 E., I set off $39^{\circ} 46' N.$ on the lat. arc; $12^{\circ} 43' S.$ on the decl. arc; at 3h. 00m. p.m., l.m.t., determine a meridian with the solar and mark the point on a peg set firmly in the ground 5.00 chs. N. of my station. At 5h. 13m., 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, 5.00 chs. N. of my station.

Oct. 27, 1914.

Oct. 28, At 7h. 00m., a.m., l.m.t., I lay off the azimuth of Polaris, $1^{\circ} 30'$ to the west, and mark the meridian thus determined, on the peg set Oct. 27, on which the meridian falls less than a minute from the mark determined by the solar.

Solar observations at 8 a.m. and 9 a. m., l.m.t., defines positions for meridians less than one minute from meridian determined by Polaris observations; therefore I conclude that the instrument is in satisfactory adjustment.

Measurements are made with a Lallie 5.00 chain steel tape and slope angles are taken with a Leitz clinometer, furnished by G.D.D. Kirkpatrick, Assistant Supervisor of Surveys, for Utah and Nevada.

The completion of this fractional township had been assigned to R.H. Fletcher, U. S. Surveyor, and J.N. Ernst, U. S. Transitman, who subsequently reported having made such survey. The surveyor general having made an office examination of the returns of that survey and, having found therein errors and inconsistencies requiring correction in the field, I was directed to make such corrections, and, while in the field, to examine the survey as a whole to ascertain whether they had been properly executed, and, if necessary to make a new survey.

Oct. 28 to Nov. 7, 1914, I make such examination and find grave errors in measurement and alignment, and corner construction very poor. As provided by the instructions I make a new survey.

Oct. 29: At 8h. 00m., a.m. l.m.t., I set off $39^{\circ} 44' N.$ on the lat. arc; $13^{\circ} 17' S.$ on decl. arc; and determine a meridian with the solar at the S.E. Cor. of T. 22 N., R. 19 E., which is a granite rock, 4x6x12 ins. above ground, marked and witnessed as described by the surveyor general, Latitude $39^{\circ} 44' N.$, longitude $119^{\circ} 48' W.$, magnetic declination $18^{\circ} 10' E.$

Thence I retrace West on a blank line between sections 1 and 36.

40.00 Make diligent search for $\frac{1}{4}$ section corner, but find none.

80.08 Fall 12 lks. N. of the corner of sections 1, 2, 35 and 36, which is a granite rock, 8x10x14 ins. above ground, marked and witnessed as described by the surveyor general. This line bears S. $89^{\circ} 55' W.$ Continue same line W.

120.21 Fall 9 lks. S. of the $\frac{1}{4}$ cor. of secs. 2 and 35, which is a granite rock 8x14x18 ins. above ground, marked and witnessed as described by Surveyor General.