

Chains

Survey commenced Dec. 2, 1914, and executed with a Buff and Buff solar transit No. 8028. The horizontal limb is provided with two double verniers reading to single minutes of arc, which is also the least count of the latitude and declination arcs.

The instrument was examined, tested on the meridian at Salt Lake City, found correct, and was approved by the Assistant Supervisor of Surveys July 23, 1914.

I examine the adjustments of the instrument 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 established by Polaris observation, I proceed as follows:

At the re-established cor. of Tps. 31 and 32 N., Rs. 49 and 50 E., latitude (observed) $40^{\circ}32'N.$, longitude $116^{\circ}24'W.$, I set off $40^{\circ}32'N.$, on the lat. arc; $21^{\circ}53'S.$, on the decl. arc, and at 3 h 30 m p.m., l.m.t., I determine a meridian with the solar, and mark a point thereof on a stone firmly set in the ground 5.00 chs. N. of the cor.

Dec. 2, 1914.

Steel tapes 500 lks. long, tested with a 100 lk. standard tape were used for measurements, and all vertical angles read with Lietz clinometers.

December 3, 1914: At 2 h 41.5 m, a.m., l.m.t., I observe Polaris at western elongation, in accordance with the Manual, and mark a point in the line thus determined by a tack driven in a wooden plug set in the ground 5.00 chs. N. of the cor.

At 8 h 0 m a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ}30'$ to the east and mark the meridian thus determined, by a cross in the stone already set 5.00 chs. N. of the cor.; this mark falls 0.33 ins. east of the meridian established by the solar.

At 8 h 20 m, a.m., l.m.t., I set off $40^{\circ}32'N.$, on the lat. arc; $22^{\circ}00'S.$, on the decl. arc; and mark the meridian determined with the solar by a groove in the stone already set 5.00 chs. N. of the cor.; this mark falls 0.22 ins. east of the meridian established by Polaris observation.

The solar apparatus by p.m. and a.m. observations defines positions for meridians respectively about $0'18''$ west and $0'12''$ east of the meridian established by Polaris observation; therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the meridian at 9 h 0 m, a.m., is $17^{\circ}30'W.$, the angle thus determined gives the mean mag. decl. $17^{\circ}30'E.$

From the above described corner,

40.00 Thence South on a retracement along the W. Bdy. of Tp. No trace of old cor. After diligent search set a temp. $\frac{1}{4}$ sec. cor.

79.61 Fall 40 lks. E. of the old cor. of secs. 1, 6, 7 and 12, which is a mound of stone with decayed stake, all the marks of which are obliterated, but no other trace of corner can be found after diligent search.

The course of this mile is $S.0^{\circ}17'W.$, and the length 79.61 chs.

From the corner just found, I continue my retracement South between secs. 7 and 12.