16. Retracement of E. Bdy. T. 31 N., R. 50 E.

Chains

Survey commenced Dec. 2, 1914, and executed with a Young and Sons mountain transit, No.8146, with 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 latitude and declination arcs.

The instrument was examined, tested on the meridian at Salt Lake City, Utah, and was approved by the Asst. 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 observations on Polaris, I proceed as follows:

At camp near the Duborg ranch in the south central part of sec. 8, T. 31 N., R. 50 E., latitude 40°30'N., longitude 116°23'W., I set off 40°30'N., on the lat. arc; 21°53'S. on the decl. arc; and at 3 h 30 m, p.m., l.m.t., determine a meridian with the solar and mark a point thereof on a stone set in the ground 5.00 chs. N. of station. 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.

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

At 8 h 0 m, a.m., l.m.t., I lay off the azimuth of Polaris 1°30' to the east, and mark a point in the meridian thus determined by cutting a small groove in the stone already set 5.00 chs. N. of cor.
This mark falls 0.38 ins. east of the meridian determined with the solar.

At 8 h 20 m, a.m., l.m.t., I set off 40°30'N., on the lat. arc; 22°0'S. on the decl. arc; and mark the meridian determined with the solar by a cross on the stone already set 5.00 chs. N. of station; this mark falls 0.36 ins. east of the meridian determined by the Polaris observation.

The solar apparatus by p.m. and a.m. observations defines positions for meridians respectively about 0'20" west and 0'19" 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 8 h 50 m a.m., l.m.t., is 17°30'W., the angle thus determined gives the magnetic declination 17°30'E.

December 3, 1914: At 9 h 53 m, a.m., l.m.t., I set off 40°32'N., on the lat. arc; 22°02'S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 31 and 32 N., R. 50 E., heretofore re-established.
Thence South on a retracement between secs. 1 and 6.

15.39 Fall 15 lks. W. of the cor. of secs. 6 and 7, T. 31 N., R. 51 E., which is a volcanic rock 12x12x6 ins. above ground firmly set, and marked with 5 notches on the S. and 1 notch on the N. edges, with a mound of stone 2 ft. base, E. of cor.

The course of this fractional mile is S.0°33'E., and the length 15.39 chs.

NOTE:-The above retracement is a compilation including corrections as made by J.C.Clark, U.S.Surveyor, in 1918

30.90 South on a retracement along the W. side of sec.7.
Fall 15 lks. W. of the old ¼ sec.cor. on the east side