Chains

Survey commenced May 17, 1915, and executed with a Young and Sons light mountain transit No.8572, with solar attachment. The horizontal limb 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 for use in this survey by the Assistant Supervisor of Surveys, for this district. May 26th: This day 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 a.m. and p.m. hours with a meridian determined by observations made on Polaris, I proceed as follows:

At my camp which is situated near the cor. of secs. 27, 28, 33 and 34, in approximate latitude 39°38'N., longitude 119°10'W., I set off 39°38' on the lat. arc, 21°5'N. on the decl. arc; and at 3 h 57 m p.m., l.m.t., determine with the solar a meridian and mark the direction of the line thus determined by a nail driven in a stake, set firmly in the ground about 5 chs. N. of my station.

May 26, 1915.

May 27: At 3 h 18 m a.m., l.m.t., I observe Polaris at approximate 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 about 5 chs. N. of my station.

At 7 h 27 m a.m., l.m.t., I lay off the azimuth of Polaris, 1°29½' to the west, and mark the meridian thus determined by a nail in the stake set May 26, on which the meridian falls 0'30" to the right of the mark determined by solar.

At 7 h 57 m a.m., l.m.t., I set off 39°38' on the lat. arc, 21°12'N. on the decl. arc; and mark a point in the meridian determined with the solar, by a nail in the stake already set 5 chs. N. of my station; this mark falls 1' to the right of the meridian established by the Polaris observation.

The solar apparatus by p.m. and a.m. observations, defines positions for the meridian, respectively, about 30" and 1' to the left and right of the meridian established by the Polaris observation; therefore, as the error is small, I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h 0 m a.m., l.m.t. is N.17°45'W.; the angle thus determined gives the magnetic declination 17°45'E.

A steel tape 5 chs. long was used in the field work together with a clinometer for determining slope angles and the reduced horizontal distances only appear in the field notes. The tape was tested, comparison being made with a standard tape, 1 chain long, kept and used for that purpose.

May 17: At 7 h 57 m a.m., l.m.t., I set off 39°37' on the lat. arc; 19°12'N. on the decl. arc, and determine a meridian with the solar at the standard corner of secs. 35 and 36 on the S. bdy. of the township, as reestablished by me May 13th. Thence I run

N.0°4'W. on a true line between secs. 35 and 36.

Over old lake bed.

19.10 Wagon road, bears NW. and SE., from Leete to Hazen.