Retracement of S. Bdy. T. 43 N., R. 24 E. 1.

Chains

Survey commenced August 6, 1915, and executed with Young and Sons light mountain transit No. 8390, with Smith 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 by Mr. G.D.D. Kirkpatrick, Assistant Supervisor of Surveys, at Salt Lake City, Utah.

All measurements were made with steel tapes 5.00 chs. in length, the first 100 lks. being graduated to links and the remainder to 10 lks. Vertical angles were read with a clinometer.

I examine the adjustments of the transit and find them correct, then to test the solar apparatus by comparing its indications resulting from observations made during a.m. and p. m. hours with a meridian determined by observation on Polaris I proceed as follows:

At my camp in T. 42 N., R. 24 E., sec. 6, latitude 41°36' N., longitude 119° 19'W., at 9h. 0m. a.m.,l.m.t., I set off 41° 36' on the latitude arc and 16° 53.5' N. on the declination arc, and determine a meridian with the solar and mark a point in that meridian on a stake firmly driven in the ground about 5.00 chs. N. of my station.

At this station I set off 16° 51.5'N. on the decl. arc, and at about 12h.6m.,p.m. l.m.t., I observe the sun on the meridian, the resulting latitude is 41° 36'.

At 3h. 0m.,p.m.,l.m.t., I set off 41° 36' on the latitude arc and 16° 49.5' N. on the decl. arc and determine a with the solar at this station a meridian, whih shows the mark in this morning's meridian to bear N. 0° 0.5'W.

At 8h. 3.6m. p.m.,l.m.t., I observe Polaris in accordance with the instructions in the Manual and mark a point in the line thus determined on a stake firmly driven in the ground about 5 chs. N. of my station.

Time of observation, Aug. 6,p.m.,----------8h. 03.6m.
Equivalent to a.m. time of Aug.6----------20h. 03.6m.
U. C. Pol., Aug. 6, Greenwich, a.m.-4h.35.1m.
Reduced to local long.---------- 1.3m.
U.C.Pol. at observation station--- 4h.33.8m. 4h. 33.8m.
Hour angle of Polaris at observation---------- 15h. 29.8m.
Subtract from---------- 23h. 56.1m.
Time argument for table---------- 8h. 26.3m.

Azimuth of Polaris 1° 12.8'E. August 6, 1915

August 8: At 10 a.m., I lay off the azimuth of Polaris 1° 12.8' to the west and find that the true meridian as determined by the Polaris observation lies between the two lines shown by the solar observations to be the meridian. I conclude therefore that the adjustments of my instrument are satisfactory.

August 8, 1915.

August 7: At 7h. 50m., a.m.,l.m.t., I set off 41° 36' on the latitude arc and 16° 38'N. on the decl. arc and determine a meridian with the solar at the cor. of secs. 5, 6, 31 and 32,hereinafter described.

Thence I retrace
West, bet. secs. 6 and 31.

40.00 After diligent search I find no trace of the ¼ sec. cor.
75.97 Fall 6.82 chs. N. of the cor. of Ts. 42 and 43 N., Rs. 23 and 24 E., hereinafter described.

Therefore the bearing of the line is N. 84° 52'E. and the length 76.28 chs.

From the cor. of secs. 5, 6, 31 and 32, I retrace
East between secs. 5 and 32.