

Resurvey of E. Bdy. T. 39 N., R. 22 E.

Chains

Survey commenced October 3, 1914, and executed with Young & 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, Asst. Supervisor of Surveys, at Salt Lake City, Utah, on April 24, 1914.

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

The instrument was tested on September 1, 1914, on a meridian, determined by Polaris observation and found correct, as recorded in Book A, I subsequently make other tests as follows:

October 15: At my camp in T. 39 N., R. 22 E., sec. 22, latitude 41° 15' N., long. about 119° 29' W., at 6 h 24.0 m. 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 5.00 chs. N. of my station.

L.M.T. of obsn., Oct. 15, p.m.	-----6h. 24.0m
Equivalent to l.m.t., of Oct, 14, p.m.	-----30h. 24.0m
U.C.Pol., Oct. 14, Greenwich, p.m.	11h. 59.1m
Red. to local longitude	-----1.3m
U.C.Pol. at obsn. station	-----11h. 57.8m
Hour angle of Pol. at obsn.	-----18h. 26.2m
Subtract from	-----23h. 56.1m
Time argument for table	-----5h. 29.9m

Azimuth of Polaris 1° 31.0'E.

October 15, 1914.

October 18: At 9 a.m., l.m.t., I set off 41° 15' on the lat. arc and 9° 27.5'S on the decl. arc, determine with the solar at this observation station a meridian, and take a bearing on my stake set on the night of the Polaris observation. The mark on the stake bears N. 1° 31'E. At this station I set off 9° 31'S. on the decl. arc and at about 11h 45.5m a.m., l.m.t., observe the sun on the meridian. The resulting lat. is 41° 15'.

At 1 h 0m p.m., l.m.t., I set off 41° 15' on the lat. arc and 9° 32'S. on the decl. arc and determining a meridian with the solar at this observation station, take a bearing on my azimuth stake. The same bears N. 1° 31.5'E. Continued cloudiness precludes further observations this day.

October 18, 1914.

October 25: At 9 a.m., l.m.t., I set off 41° 15' on the lat. arc and 11° 57'S. on the decl. arc and determine a meridian at this station and mark on stake which bears N. 1° 31'E.

At this station set off 12° 0'S. on the decl. arc and at 11h 45m a. m. l.m.t., observe the sun on the meridian the resulting lat. is 41° 15'.

At 3 p.m., l.m.t., set off 41° 15' on the lat. arc and 12° 2'S. on the decl. arc and determine a meridian with the solar and mark on stake which bears N. 1° 31'E.

I conclude therefore that the adjustments of my instrument are satisfactory.

October 25, 1914

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October 14: At 8h. 35m. a. m., l.m.t., I set off 41° 12.5' on the lat. arc and 7° 58'S. on the decl. arc, and determine a meridian with the solar at the cor. of T8. 38 and 39 N., R. 22 E., which is an iron post, 3 ins. in diam. 16 ins. above the ground, firmly set and marked and witnessed as described by the