

HOMESTEAD ENTRY SURVEY NO. 179

UMPQUA NATIONAL FOREST

STATE OF OREGON

CHAINS

Entryman: Valeryane Andraieff

H.E. No. 09503, dated June 2, 1914

Land Office: Roseburg, Oregon

Survey commenced September 2, 1916 and executed with a Buff and Buff light mountain transit No. 9701 with solar attachment; the horizontal limb having two double verniers placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The instrument was examined, tested on the true meridian at Portland, Oregon, found correct and was approved by the Assistant Supervisor of Surveys for Oregon and Washington, April 29, 1916.

All measurements, unless otherwise specified, are made with a 1/8 inch steel tape, 5 chains in length, compared with a Chesterman standard steel tape. Clinometers are used to determine slope angles, and measurements are reduced to true horizontal distances.

I examine the adjustments of the transit and correct all 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 on Polaris, I proceed as follows:

September 2, 1916: At my camp near cor. No. 7 of this survey, hereinafter described, in latitude  $43^{\circ}04'N.$ , longitude  $122^{\circ}40'W.$  (obtained from blue print accompanying Special Instructions and subsequently verified) I set off  $43^{\circ}04'N.$  on the latitude arc,  $7^{\circ}47'N.$  on the declination arc, and at 4h p.m., l.m.t., determine a meridian with the solar and mark a point thereof on a peg set in the ground, 5 chains north of my station. At 8h47m p.m., l.m.t., I observe Polaris at eastern elongation and mark a point in the line thus determined on a peg driven in the ground, 5 chs. north of my station.

September 2, 1916

September 3, 1916: At 8h a.m., l.m.t., I lay off the azimuth of Polaris 94 minutes to the west and mark the meridian thus determined by a tack in the peg previously set, on which the meridian falls 0.5 inches west of the mark determined by the solar.

At 8h05m a.m., l.m.t., I set off  $43^{\circ}04'N.$  on the latitude arc,  $7^{\circ}33'N.$  on the declination arc, and mark a point in the meridian determined with the solar, by a tack in the peg already set in the ground, 5 chains north of my station; this mark falls 0.45 ins. east of the meridian established by the Polaris observation.

The solar apparatus by a.m. and p.m. observations defines positions for the meridian within 1 minute of arc of the meridian established by the Polaris observation; therefore I conclude that the adjustments of the instrument are satisfactory.

September 4, 1916: At cor. No. 7, hereinafter described, I set off  $7^{\circ}06'N.$  on the declination arc, and at 11h59m l.m.t., observe the sun on the meridian; the resulting latitude is  $43^{\circ}04'N.$ , longitude  $122^{\circ}40'W.$

The magnetic bearing of the true meridian at cor. No. 7, September 4, 1916, at 12h m. is  $N.20^{\circ}10'W.$ ; the angle thus determined gives the magnetic declination  $20^{\circ}10'E.$  The mean magnetic declination is  $20^{\circ}13'E.$