

TOWNSHIP 42 NORTH, RANGE 65 EAST

The survey completing the subdivision of township 42 north, range 65 east was executed with light mountain solar transits made by W. & L. E. Gurley, serial No. 262669 and Young & Sons' serial No. 8394, constructed in accordance with the specifications of the General Land Office. The horizontal circles have diameters of $4\frac{1}{2}$ ins. and $4\text{-}3/4$ ins. respectively, each with two double verniers reading to single minutes; the vertical circles have diameters of 5 ins. and 4 ins. respectively each with one double vernier reading to single minutes. The stadia method of measurement was not used and a description of the stadia hairs is omitted. The instruments are equipped with the improved Smith solar attachment, but as this survey was executed as a combination of transit lines, a description of the Smith solar attachments is omitted. The instruments were in good condition having been placed in satisfactory adjustment prior to the beginning of the survey, and tested and found free from appreciable error were approved by the district cadastral engineer August 15, 1938.

The measurements were made with 2 Lallie steel tapes, each 5 chs. in length, graduated every link for the first 100 links and the balance at intervals of 10 lks. The tapes were tested by comparison with a Lufkin standard and found correct. The measurements were made on the slope, and the vertical angle of each interval was ascertained by a clinometer in good adjustment; the horizontal equivalents are entered in the field note record.

The geographical position of the initial point, the SW. cor. of T. 42 N., R. 65 E., as computed by reference to the SW. cor. of T. 44 N., R. 32 E., is latitude $41^{\circ} 27' N.$, longitude $114^{\circ} 41' W.$

August 19, 1938; at 9h 55.9m p.m., l.m.t. or 9h 33.6m p.m., by my watch which reads correct 120th meridian time, as determined by comparison with the Standard Western Union Telegraph time clock at Wells, Nevada, I observe Polaris at eastern elongation making 6 settings, 3 each with the telescope in direct and reversed positions, accumulating the horizontal angle, measured by the method of repetitions, counting from an illuminated lathe, 10 chs. N. of my station.

Horizontal Angle 6 repetitions..... $8^{\circ} 32' 36''$
Reduced Angle..... $1^{\circ} 25' 26''$
Azimuth of Polaris at e.e..... $1^{\circ} 22' 36''$

True bearing of lath..... $N. 0^{\circ} 2' 50'' W.$

In order to mark the true meridian, I set a second lath point 0.72 lks. (0.48 ft.) to the east of the original point; then to verify the angle subtended by the two lath points, I make ten repetitions and find the multiple angle reads $0^{\circ} 28' 20''$.

The observed magnetic variation is $N. 16^{\circ} 00' E.$

Before reconstructing or restoring the corners, the lines of the original survey were retraced, and search was made for evidence of the original corners and other calls of the field notes. The rules of proportionate measurement were applied in order to ascertain the position of each lost corner after completing the necessary retracements.

DEPENDENT RESURVEY
EAST BOUNDARY OF T. 42 N., R. 64 E.
All $\frac{1}{4}$ sec. and sec. cors. reestablished at proportional distances.