

Field Notes of survey of Oregon & Washington Bdy.
From the Columbia to Snake Rivers,
As surveyed by Daniel G. Major, Astronomer & Surveyor,
Under Contract of April 25th, 1863.

Chains November 17th, 1863.
Establish Astronomical Camp on North East branch of Cottonwood Creek, foot of the Blue Mountains, and began observations for the determination of the 46th parallel of latitude.

Dec. 12 Completed the series of observations and determined the position of the Camp to be $45^{\circ}59'26.5''$, dependent upon the results from the reduction and discussion of 228 observations of circum-meridian and circum-polar stars for latitude; 150 independent altitudes for Time, of stars near the Prime Vertical and 80 observations of Sun's semi-diameter, etc.; for instrumental corrections; also the necessary observations for Refraction and elevation above sea level. December 14th. Compared two pole chain of thirty-three feet length, consisting of 50 lks., with Standard chains, the latter being used only for comparisons.

Measured N. from Camp of Observation, 116 chains of 33 feet each. Ran W. on tangent to parallel several miles until interrupted by heavy snows and intense cold. Thermometer for many days marking 10° & 15° below Zero, Fah.

Mar. 2nd
1864 The weather having moderated, began to mark off the tangent to 46th parallel (at the intersection of N. & S. line bet. Rs. 36 & 37 E. of W.M.) and the approximate Bdy. line dependent upon the above written results; prolonging this tangent on the 6th of May, I reached the Columbia River. Length of tangent, 35 miles equal to a southern departure from the 46th parallel at Columbia River of 12.90 chains. Consequently ran due N. 12.90 chains equal to 283.8 yards and set a temporary stake near the east bank of the Columbia River, as the 46th parallel from the determination of Astronomical station on Cottonwood Creek, Oregon.

2nd Astronomical Station.

May 7th
Encamped on E. bank of Columbia River at the foot of "Cath-