

## VALUATION SECTION WASHINGTON 7.

Valuation Section Washington 7 covers the branch line of the C. M. & St. P. Ry., extending from the main line station Warden, in a general northeasterly direction to Marcellus, a distance of about 48 miles.

During the winter of 1908-09 an engineer made a general exploration covering an area about 40 miles wide and 60 miles in length, lying between the Great Northern and the C. M. & St. P. Railways, bounded by Cow Creek on the east and Moses Lake on the west. This work was done on horse back and required about three months' time. He made a very complete report as to the traffic possibilities of the territory, in addition to outlining a possible branch line. A location party was sent to Warden in October, 1909 to develop the possibilities of the route outlined in the reconnaissance report. This party was in the field four months, running 93 miles of preliminary and 200 miles of location survey for the final 47 miles adopted, or two miles of preliminary and four miles of location for each mile of adopted line. Construction commenced in March, 1910. Track was laid in December of the same year.

For construction purposes a District Engineer's office was established in Warden, under the direct supervision of the Chief Engineer in Seattle. The line was divided into four residencies of various lengths.

Leaving Warden this branch runs northeasterly for about 25 miles, thence nearly due east to the terminus. The gradients are undulating with a maximum of 2%. The alignment is good, consisting of long tangents intercepted by east curvature.

H. C. Henry was awarded the contract for the clearing, grading, bridge and culvert work, which he sublet to seven other contractors. This work was largely done by teams with wheeled scrapers and fresnos. Outfits were delivered by rail to points on the C. M. & St. P., Northern Pacific and Great Northern Railways, depending on the distance to the places of operation.

Most of the territory traversed was covered with sage brush and greasewood, which required clearing for light grading.

In general, the grading was light. Much of it was side borrow work. Some classified material was encountered. The worst difficulty to overcome was the wind, which blows almost

incessantly in this vicinity, and made the work very disagreeable and expensive as in many cases newly graded embankments were blown away. Water was scarce and of poor quality and was usually hauled for long distances. Men were hard to hold under such conditions.

No unusual bridge work was required. Those that were built were standard pile trestles. The material was delivered at Warden by rail from where it was hauled by team to the points of erection.

Culverts were built of vitrified pipe, hauled by team from Warden.

The drainage requirements as anticipated during construction were very deceiving. This territory is subject to spasmodic heavy rainfall and cloud-bursts, which require unusual drainage facilities. As a consequence many of the culverts installed during original construction have been washed out and replaced by pile bridges.

Warden was the point of supply for track laying. A Roberts Bros. machine was used and new 65 pound rail was laid. Track laying began July 7th, 1910 and was completed on November 16th of the same year. No work was done, however, between July 27th and September 18th. The track was side surfaced immediately after it was laid.

A temporary water tank was erected about 19 miles north of Warden for track laying purposes. Permanent tanks with drilled wells have since been installed at Ruff and Marcellus.

Standard right of way fences have been built with the necessary crossing facilities.

The buildings were constructed by Company forces soon after the line was opened for traffic, the usual section facilities being built at Tiflis, Ruff and Marcellus, and depots at the two last named places.

Telegraph material was distributed by work train and erected by Company forces. Telephones were installed in booths at Blind sidings, as well as in the depots.

The branch is operated as a part of the Idaho Division, the usual branch line equipment being used. Traffic is not very heavy except in the wheat hauling season.