

## VALUATION SECTION MONTANA 6.

Valuation Section Montana 6 covers the branch line, extending about 36 miles in a general easterly direction from Lewistown to Grass Range, Montana. This branch is situated entirely in Fergus County, and is usually known as the Grass Range Line.

During the Fall of 1909 and the Winter of 1909-10 reconnoissance, preliminary and location surveys were made for a branch line from Lewistown to Weede on the Musselshell River. Two survey parties were on this work, one between Lewistown and Grass Range, and the other between Grass Range and Weede. An attempt was made to attain the divide near Heath on a 1 percent gradient, but the work was found too heavy, so the line was located on a 2 percent gradient as it now is. A total of about 88 miles of location survey was required to produce the 36 miles of adopted and constructed line.

The line as adopted and constructed follows the east fork of Big Spring Creek from Lewistown to Heath with varying gradients, the maximum being .97 percent. From Heath an ascent is made on a 2 percent gradient to a divide at Orange in Mile Twelve. This divide is a low gap between the Big Snowy Mountains lying on the south, and the Judith Mountains on the north. Leaving the divide a descent is made on a 2 percent gradient along the South fork of McDonald Creek to Norton. From Norton to Grass Range, McDonald Creek Valley is followed on varying gradients, the maximum being 1 percent. At the time of construction McDonald and Big Spring Creek Valleys were under cultivation, and wagon roads were in existence. Water was plentiful and of good quality. All equipment was transported by team from Lewistown. A small amount of horse feed was obtained locally, but for the most part all supplies were hauled from Lewistown. Labor was scarce and men were shipped in from various points.

This line was constructed at two different periods under separate contracts. A contract was entered into with McIntosh Brothers in 1910 for the construction on the basis of

cost plus a percentage. Under this contract the work was sublet to three other firms. The grading was begun in May, 1910, and was practically completed on the first 24 miles east from Lewistown by December, when the work was ordered discontinued and forces were disbanded. Likewise between Mile Twenty-four and Grass Range considerable grading had been done, but no bridge or culvert work. A second contract was entered into with D. J. Burke on August 29th, 1912 for the completion of the first 24 miles on a force account basis with fixed rates of pay for teams and other equipment and the construction of the last 12 miles to Grass Range, on a unit price basis.

The grading was variant, some miles running as low as 5000 cubic yards, and some 50,000, the average being about 22,000 cubic yards per mile. Common material predominated, being about 65% of the total. The work was largely done with the use of teams and grading machines or scrapers as the case required. The rock work on Miles Eight to Fifteen inclusive was done by station men with the use of cars and track to carry the material to the fills. Numerous channel changes were made along the creek valleys to avoid crossings, and several irrigation complications required expensive work. In McDonald Creek Valley the line encroached upon and interfered with the public highway in many places, necessitating the purchase of right of way and the reconstruction of the highway on a new location by the Railway Company.

In the interim between the cessation of work in 1910 and the resumption in 1912, two bad slides occurred in Mile Ten, which were removed by force account, but continued to give trouble after the track was laid, necessitating a shoe fly for train operation. The Moran slide at Station 140-150, Mile Ten was the most serious. A steam shovel was installed in this cut and the material removed was hauled to the Lewistown yards.

The bridge and culvert work was done by D. J. Burke under his contract. The bridges were pile trestles built in accordance with the C. M. & St. P. standard plans. The culverts were of corrugated iron pipe and timber. All material was furnished by the Railway Company and delivered to the material yard at Lewistown; from there it was hauled to the points of erection by team with a haul limit of 14 miles. From Norton east the material was hauled from end of track as the track laying progressed. In some cases the track arrived at the bridge sites before the structure was completed and it was necessary to put them temporarily in shape in order not to delay the progress of the track. These bridges were completed later and the contractor was reimbursed for his extra expense.

Track laying was done by Company forces with a Roberts Brothers machine, and followed the finished grade as rapidly as possible. The main line was laid with new 75# steel and

the sidings with lighter material. The ties were of Western fir. Ballast was placed in 1913, being hauled from Wachusett Pit, located on the Lewistown-Great Falls Line about 8 miles west of Lewistown.

Right of way fence with the necessary crossing facilities was provided except through the important station grounds. Standard combination freight and passenger depots were built at Forest Grove and Grass Range, and smaller depots at Heath, Norton and Becket. Water stations were installed at Norton and Grass Range, and section crew facilities at points convenient to the work.

The line is operated as a part of the Northern Montana Division with headquarters at Lewistown. The usual branch line equipment is used as the traffic is fairly light.