

Bird's Tail Creek can be bridged with one span of 100 feet, 12 feet above the surface water.

From the 96th mile the line follows the Valley of the Assiniboine up to the mouth of Qu'Appelle, at the 110th mile, with easy gradients, and the works would be light.

The bottom of the valley is about  $1\frac{1}{2}$  mile wide, the soil is good, being prairie, interspersed with groves of poplar and clumps of willow and brush. The south slope of the valley is densely wooded, and the north side is chiefly prairie with some clumps of poplar. On both slopes of the valley and the country adjoining, the soil is shallow, overlying a stratum of boulders, gravel and sand.

On a general average the works on this line will be moderate, the heaviest item being the earthwork, which is due to the rough country on the first 7 miles, and the heavy cuttings in descending to the Valley of the Assiniboine.

#### THE NORTH-WESTERN LINE.

This line commences at the same point as the last described, and follows the same course up to the 8th mile, where it diverges to the north-west, making a straight course to a point in the Valley of the Little Saskatchewan, where the northern trail crosses the valley. This is known as Tanner's Crossing, and a bridge has recently been erected over the river.

The line reaches the top of the eastern slope of the valley between the 33rd and 34th mile, where the altitude is 1,768 feet above sea level.

The character of the country and the soil up to this point is very similar to that on the other line.

The surveyed line crosses the Valley of the Little Saskatchewan obliquely on a course nearly due west, descending the eastern slope to the river with a gradient of 32 feet per mile for  $4\frac{1}{2}$  miles, and ascending the western slope at the rate of 42 feet per mile for  $5\frac{1}{2}$  miles. The excavations, however, are heavy, and in the location of the line for construction it would be expedient to make a deviation, by which the gradients on the eastern slope would be 42 feet, and on the western slope 53 feet per mile. This would shorten the line fully one mile, and reduce the quantity of earth excavations considerably. This, however, would still be rather heavy, and with our present information it has not been considered safe to estimate it at less than 29,000 cubic yards per mile for 9 miles. This, however, may possibly be reduced by a careful location survey.

The altitude at the 42nd mile, on the top of the western slope of the valley, is 1,876 feet; thence the course of the located line would be direct to the 89th mile, on the top of the eastern slope of the Valley of Bird's Tail Creek, but the surveyed line varies one to three miles north of the direct line.