

BRITISH
NORTH AMERICA

This will require a heavy bridge. The width between the banks at top is 300 feet, the stream at the bottom is 100 feet wide; the ravine being 150 feet deep, it will be necessary to have the centre span as large as possible, to diminish the great height required for the piers.

The line from this continues at very favourable grades, crossing the Rivière du Loup at the 527th mile, about five miles above its mouth, and thence (either in the second or third concession) for 100 miles through a densely-populated country of the most favourable description, to the Boyer River at the 620th mile, from which it rises to Beaumont Church, 278 feet above tide water, and descends at a moderate grade for about nine miles, to Point Levi, opposite the city of Quebec.

Major W. Robinson, R.E.,
&c. &c. &c.

(Signed) G. W. W. HENDERSON,
Captain Royal Engineers.

TABLE of probable Gradients on proposed Halifax and Quebec Railway.

Prevailing Gradients.	Canada. Quebec to Restigouche River.	New Brunswick. Restigouche River to Bay of Verte.	Nova Scotia. Bay Verte to Halifax Harbour.	Total.
	Miles.	Miles.	Miles.	Miles.
Level and under 20 feet per mile	222	151	66	439
20 to 40 feet ,,	42	71	37	150
40 to 50 feet ,,	5	8	10	23
50 to 60 feet ,,	8	4*	7	19
60 to 70 feet ,,	None	None	4	4
Total . . .	277	234	124	635

* This gradient will be avoided by following the Restigouche instead of the Eel River.

(Signed) G. W. W. HENDERSON,
Captain, Royal Engineers.

APPENDIX No. 2.

(Plans referred to :—Nos. 17, 18, 19.)

Report on the Explorations from the Miramichi Lake, across the Valley of the Tobique, to the Restigouche River.

THE explorations carried on during the autumn of 1846 having shown that the chief difficulties to be encountered by any line of railway passing through the central portion of New Brunswick was the large valley watered by the River Tobique, which running directly across the general direction of the line must be crossed by it, and that the height of land on the southern side was of great elevation, the explorations were directed in the following year (1847), to ascertain the practicability of ascending to this height of land from the table-land between the waters of the Miramichi and Nashwauk Rivers to the westward of Boistown, and to which there is easy approach from the level country to the southward; and having gained that height of land south of the Tobique River, to ascertain the practicability of crossing its valley at the most favourable grades.

This valley is about 30 miles wide. The highlands bounding it on the south side are very lofty. The lowest point at which they can be passed, as ascertained by our explorations, being at a point about 19 miles south of the river; 1216 feet above the sea, or 894 above the river.

The height of land or water shed on the north side of the valley is about 12 miles from the river, and 418 feet above it, 838 feet above the sea.

The exploration was commenced between the Napadogan Lake and the Miramichi Lake, about 20 miles north of the portage road from Boistown to Fredericton.

The line which has been reported upon as practicable involves, as will be seen, very heavy grades.

From the point of starting the line descends at a grade of about 54 feet per mile for two miles to the Miramichi Lake; thence it passes through a dry spruce country to the south-west of Miramichi River, which it reaches at the fifth mile; from this it follows the valley of that river for seven miles at very easy grades to the forks of the river, where it crosses the west branch, and ascends by the valley of the north branch, as shown by the black line on the Plan, to the point D, at the 21½ mile, at easy grades, shown by the red line on the section; none exceeding 16 feet per mile.

Then it meets a ridge of land which will cause it to diverge to the eastward, and involve a grade of about 50 feet per mile for two miles; and thence follows the valley of the north branch of the Miramichi, at a gradient of 44 feet per mile. The valley here is very narrow and broken, the highlands coming in close on either side.

The line leaves the valley of the River Miramichi at the 26th mile, and follows the valley of one of its tributaries, called the Dead Water Brook, at the same grade of 44 feet per mile to the 28th mile, at the point F.

From this it continues along the same valley, but at an easier grade of 20 feet per mile to