NORTHERN OUTCROP, CUMBERLAND COAL FIELDS-GILPIN. 397

most promising coal beds are confined to the lower part of the Productive Measures; while the upper half lying immediately below the Ragged Reef sandstones appears to be worthless. So far as I am aware, this set of rocks has not been systematically explored, and its coal contents east of the Joggins are problematical. However, as we have seen that the coal values of a certain horizon in the lower portion have improved to the east, we may anticipate that it is quite within the bounds of possibilities that conditions favorable to the accumulation of workable seams of coal have occurred through this long stretch of coal measures.

Having thus briefly discussed the known seams, and the possible future greatly enhanced value of the district, it remains for me to draw attention to the qualities and transportation facilities of the seams already noticed, with the proviso that any seams found in the future will be more favourably situated for outlet than those now proved.

The distance from the Intercolonial Railway to the furthest east point yet proved in the district is 3 miles. This distance gradually diminishes until the Railway enters the productive belt, and traverses it for a distance of about $1\frac{1}{2}$ mile. By this road a ready outlet is furnished to shipping at Dorchester, 29 miles from Maccan.

The Maccan and Herbert Rivers furnish good shipping facilities for vessels up to 300 tons burden, and at the Joggins coal is loaded into vessels directly from the mines.

I regret to say that at the time I prepared for the Newcastie Institute of Mining Engineers, my paper on "Canadian Coals," I was unable to procure a set of samples of these coals for analysis. I give the following from Dr. Dawson's "Acadian Geology" and other sources, which show the general character of the seams :—

JOGGINS.

Moisture	2.50
Volatile Combustible Matter	36.30
Fixed Carbon	56·00
Ash	5.20

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