

Black clay, (sheepskin,)	0	1	1-2
Coal, (main seam,)	4	3	
Underclay, (pavement rock,)	unknown.		
	15	10	1-2

At another place, where the measures were seen at a "stripping," or open digging, the appearances were as follows:—

Red clay,	1	ft.	1	in.
Soft yellow clay,	3		6	
Hard yellow clay, (coal rock,)	3		0	
Blue shale,	1		6	
Coal,	0		4	
Black clay,	0		2	
Coal,	1		6	
Under clay,	unknown.			
	11		0	

As may be supposed, the mining operations are all carried on in a small and rude manner, yet, from time to time, I believe that nearly 2000 chaldrons per annum have been brought into market. Within twenty years all the coal was got by *strippings*, or open diggings, but since that it is chiefly got out by adits or levels: of these there are or have been a great many on the Newcastie Creek, on the Salmon River and on Coal Creek. The settlers of the vicinity used to go into these mines during the winter instead of going into the woods. Messrs. Berton Brothers, of Saint John, have recently taken out mining leases and wrought the coal on a somewhat more extensive scale. The coal is bituminous, and cakes or fuses when heated, so as to form a hollow fire admirably fitted for blacksmith's use, but less so for ordinary grates, without frequent stirring.

The Grand Lake coal now brought to market is much better cleaned from pyrites ("sulphur") and clay than it used to be formerly, and I believe that it is preferred by the Saint John blacksmiths to any of the imported varieties. The uniform quality, thickness and depth of the coal got at the Lake district, lead to the conclusion that one bed only has been opened as yet. Dr. Gesner says, however, (III. 72) "there can be no doubt that there are other and far richer deposits of coal beneath the one already discovered, but at what distance from the surface it is impossible to calculate, in consequence of the almost horizontal position of each stratum in the coal series." If the out crops of other and far richer deposits of coal had been known—if they had dipped towards the quarter alluded to—and if they had not suffered much denudation, the above expressions would have been more justifiable than they appear.

An expiatory boring was undertaken in 1837, by the Salmon River Coal Company, at a cost of £2000, but the returns (supposing them to be correct) gave but little promise as far as they went; the boring was made to the depth of upwards of 400 feet, and in this distance a few thin seams of coal were passed through, and one of bituminous shale and coal, 8 feet thick was reported; nothing further was done, and the company broke up.

3. Coal has been found on the Washademoak River near the mouth of Long's Creek—its thickness is about a foot, and according to Dr. Gesner (III. 60) "is probably accompanied by more valuable deposits than have yet been discovered."

4. Coal has also been reported as occurring on the New Canaan River, another branch of the Washademoak, but it is not unlikely that both this and the former may be part of the same bed as that seen at the Grand Lake.

Kings. 1. In Dr. Gesner's second report (p. 63) it is mentioned that the rocks of the Westmorland coal field occur at Ward's Creek, a small stream which flows from the south and joins the Salmon River in Sussex Vale. At the farm then held by Mr. A. Sheck he reports "a stratum of impure cannel coal, about three feet in thickness, and from the qualities of this kind of coal mingled with the debris of the surface, it is evident that it exists in much greater quantities and a quality more pure in situations now concealed by beds of sand and other detrital matter." This stratum, accompanied by a fine grained sandstone, containing remains and impressions of plants of the coal period, was observed at various points for six miles in a N. E. direction towards Dutch Valley, and, as Dr. Gesner adds, "although the largest and most important beds of coal remain undiscovered, yet an advancement is made towards their development." (p. 64.)

In 1817 I had an opportunity of visiting the farm mentioned above, and then I found a brownish bituminous shale or slate in contact with a sandstone containing remains of what appeared to be *fucoids*. We made a wood fire, and got the former to burn: still there was too much earthy matter present to entitle it to be included under the head of coal.

Albert.—1. In the Pollet river about fifteen miles from where it joins the Petticoat river, small seams of coal appear in its bed, and some drift coal is found in the neighbourhood. Dr. Gesner (II. 63) observes in regard to this case "that it is abundant in the concealed strata beneath, appears very evident." Coal may or may not be abundant underneath, although it is hardly fair to require us to admit that it is very evident that it is either one or the other.

2. In the following pages of the same Report, coal is stated to appear at the head of Turtle Creek, and ten miles N. N. W., from Shepody; it was likewise seen on Mr. Stephen's land where a stratum of coal ten feet in thickness was observed in the bed of a brook; the coal found in this vicinity is said to be of much superior quality to any along the whole line of out-cropping, it kindled quickly, and afforded a greater quantity of carburated hydrogen gas than any of the imported varieties. The earthy matter varied in quantity from twelve to twenty-five per cent., and the ashes contained carbonite of lime. The out-crop of this coal was within 500 yards of trap and *yenite*, which form a steep and high declivity along its southern edge to the distance of ten miles. Although the proportion of ashes above stated is very large, the above mentioned stratum must be regarded as one of considerable importance, and I regret that I had not an opportunity

of seeing it with you when we were in Albert county together. It ought to be tried experimentally at the Saint John Gas works or elsewhere.

3. Dr. G. (III. 28) mentions the occurrence of a bed of coal at Frederick's brook, a branch of Weldon's Creek, which flows into the Petticoat river, in the Parish of Hillsboro'. It exists, he says, "in several separate strata, the largest of which is about nine feet in thickness." The quality of this coal is stated to be superior to that of the Memramcook or Stephen's farm, mentioned above; a quantity of it was collected and fired in the bed of a stream it ignited readily and burned with great splendour; the strata consisted of sandstone, slate, bituminous shale and coal which ran E. and W. with a southerly dip.

I visited this place in October last, and found on Mr. Steve's land, near the head of Frederick's brook, a good deal of brownish bituminous shale, but no coal whatever. Subsequent to the period of Dr. Gesner's Report, a boring had been made for coal by Messrs. Bryant and Sherer; we saw some of their old works near the edge of the brook where they had bored to a depth of 40 feet, but without finding any coal. Mr. Steve's showed me what had been regarded as coal, but it proved to be Mineral pitch or hard bitumen; it had only been found, he said, in small rolled fragments in the surface drift of his fields. The occurrence of this mineral in New Brunswick is interesting, but it was impossible for me in a hurried visit to attempt to discover its proper site.

4. Coal occurs on Mr. Richardson's land, at Cape Enrage, in Chignecto Bay; you yourself visited it in October last, and informed me that it was of the common kind, about eight inches thick, and occurring with the usual shales and sandstones, which dip at a very high angle; that the coal section was very good, and that if other beds had existed, besides the above, they would have been readily seen. (II. 23.)

5. At Salmon River, further west, and on land belonging to Mr. Foster, coal was spoken of also, but it was said to be impure and of small extent.

6. On the south side of Grindstone Island, Dr. G. reports "several strata of soft red shale with narrow seams of coal." The course of the strata is W., and dip S. 40°; although there are indications of coal at several localities, no out-cropping of any practical value was discovered on the shore. (— 25.)

Westmorland.—1. On Taylor's farm on the west side of the Memramcook river, four miles above Dorchester, there is a good natural section of the coal measures; the dip is S. S. E. and nearly forty 40°. Here occurs a bed of highly bituminous shale 4 1-2 feet thick, into which an adit has been made by Mr. Steadman; it ran in, on the dip, for forty or fifty feet, and it followed much farther in the same direction would issue below high water mark; about 200 tons of the mineral were piled on the bank for shipment. It is easily set fire to and blazes readily, but leaves an ash nearly as bulky as the original piece. Scotch cannel leaves about 4 per cent. of ashes. I have heard that this substance has been tried at the Saint John Gas Works, but was not considered suitable there; it ought to be tried again. Dr. G. remarks (II. 67) that the same coal may be seen on the east side of the Memramcook River, a short distance north of Dorchester. I was not able to observe coal there, though there is in that vicinity a bituminous shale and a very fetid limestone.

2. At Cape Bellevue Village, Dr. G. speaks of coal appearing under circumstances similar to those mentioned in regard to Taylor's farm, but I am not aware of its having been opened as yet, the direction of the strata is N. E. and the dip is high. (III. 27.)

3. Coal has been found on the Seadonk River, and has been used by a blacksmith there.

Dr. G. did not succeed in discovering the out-crop, although as he observes, "it is evident, that by boring in a situation judiciously chosen, the coal strata might be found; and which from their proximity to the harbour, would prove most advantageous to this portion of the Province." (II. 69.)

4. In 1841 bituminous coal was discovered in the Tediash River, a cart-load of it having been procured, and consumed in the forge of a blacksmith. Dr. G. (II. 85) reports that it occurs in a thin stratum about ten feet below the soil, and between beds of bituminous shale, met by fire clay above and below. It dips N. E. at an angle of 10°.

(To be continued.)

TREMENDOUS FLOOD.—The New Orleans Bulletin of the 6th and 7th inst., states that an extensive flood exists in the Mississippi, from the mouth of the Ohio down to within the limits of Louisiana, causing much suffering and loss of property. The river, says the Bulletin, is entirely over its banks for hundreds of miles below the Ohio, and the levees have broken in various places between this and Vicksburg. A very large crevasse has taken place on the Louisiana side, opposite Rodney, which has flooded that entire section of country. The town of Rodney, on the Mississippi side, through its whole extent, was flooded nearly up to the second floor of the stores and dwellings. Below Vicksburg the levees have given way. The whole valley of the Gasoo was also under water. It was estimated that cotton districts producing 200,000 bales were under water. Opposite Helena, Ark., the water has completely covered the prairies. The Arkansas is falling, but we understand that Red river is rising fast, and that it has already submerged many of the plantations near the mouth. From Natchez to Milliken's Bend, it is estimated that at least 120,000 acres of land, which had been planted in cotton, are now under water, and hundreds of the finest plantations entirely ruined. The river now extends from Natchez to the Hills of Onachita, a distance of over forty miles, and we learn from an eye witness that everything had been swept away. Every knoll and hill top is filled with cattle, horses, and other domestic animals, and even bears, panthers and deers are herding with them, forgetting in the presence of a common danger, their natural ferocity or timidity. At Vicksburg the river is 50 miles broad.

LATE NEWS FROM CUBA!

LANDING OF THE INVADERS, AND SURRENDER OF CARDENAS.—ONE HUNDRED AND FIFTEEN TAKEN AND CONDEMNED TO DIE!—The Steamship Ohio arrived at New York on Sunday, with the following intelligence from Cuba: General Lopez landed at Cardenas, about 90 miles from Havana, on the 17th inst., with about 500 men, and took possession of the town. The garrison consisted of one company of about 60 men, who made but a slight resistance. They were driven into a church, and after losing three killed, surrendered.

The General landed in the steamer Creole, which left New Orleans on the 7th inst. Several other vessels, containing in all some 1200 or 1500 men, had left New Orleans previous to the Creole, but where they are to land is not known. The greatest excitement prevailed at Havana, amounting to a panic. The City was under martial law, and several thousand militia had been enrolled and arms were being delivered to them. The resident foreigners were called on to enrol. There were 1500 troops at Matanzas, and 800 were despatched from Havana, at 1 o'clock a. m. on the 20th, to reinforce them and march against Lopez. It was reported that the force under Lopez had increased to two thousand and that he was already half way to Matanzas.

On the 16th news was received that a large force was collected on Womans Island near Catoche, Yucatan.—The General of Marines, with several vessels and about 300 men, started immediately for that point. Just before the Ohio left, the Spanish steamer Pizarro came in with 115 prisoners, taken from that Island. It was said that they were mostly Germans and Irish. The report was that they were to be shot that day at twelve o'clock, or at least every tenth man shot, and the remainder confined in the dungeons of Moro castle.

The force on the Creole with which General Lopez effected the landing, is only a small part of the expedition. It is known that some ten or twelve vessels have left New Orleans and different parts of the Gulf, probably to land simultaneously at different points. It was reported that Lopez had broken up the Railroad to Cardenas in several places. The merchants and bankers in Havana were removing their money to a fort for safety. The Ohio, Georgia, and Falcon were obliged to anchor at the entrance of the harbour. Capt. Schenck protested through the American consul to the captain general, and demanded a safe anchorage, but was refused and told that he might go to sea as soon as he pleased.

None of the passengers except those having passports were permitted to go on shore, and no communication was allowed between the passengers and officers of the town until a permit was obtained from the captain-general. The Ohio was obliged to wait more than fifteen hours for a permit to transfer her passengers, after she was ready for sea.

DEFEAT OF THE EXPEDITION.—We learn by Boston papers of Monday, received on Wednesday night, per Fairy Queen from Portland, that the expedition under Lopez had been routed by the Spaniards; and that Lopez made his escape with a number of followers, and landed at Key West, and was afterwards arrested by the American authorities and subsequently liberated, because there was no power to detain him. The fate of the remainder of the expedition (500 in all) was not known; but the probability was the most of them would be unable to leave the Island, and shot.—*St. John Morning News.*

We shall now proceed as was promised, to consider the propositions to construct a canal connecting Quebec with St. John, via the Temiscouata Lake, and River of that name, or, a railroad through the valley of the Aroostook. This valley comprises an immense tract of the most fertile land, and well watered country, to be found on the continent of North America, which was surrendered to the United States by the Ashburton treaty, and with it a body of French Acadians, residing on the right bank of the St. John—that portion of them inhabiting the left bank being retained by England. The line must therefore, necessarily pass through American territory: and we presume it is intended to adopt that which was surveyed some thirteen or fourteen years since, between St. Andrews and Quebec, with the sanction of the British Government; and of which the survey was discontinued, the President of the United States having represented that it would pass through territory then in dispute between the two countries.

As to the opening of a water communication between the St. John and St. Lawrence; from what we have learnt as to the natural features of the country, there can be little doubt that the undertaking is not difficult of accomplishment,—the distance from the head of Temiscouata Lake to the Trois Pistoles on the St. Lawrence being very short; and passing through a break in the range of hills, that skirt the great outlet of the waters of the Canadian lakes. In fact, as will be perceived by any person who can consult a map of the country, it is probable such was their course; as the Temiscouata lake, and the St. John for several miles below, together with the Madawaska river which connects them, lie as nearly as possible in a direct line; and at the point of intersection, the St. John suddenly turns off at a right angle; leading to the inference, that the St. Lawrence at one time emptied a portion of its waters through the St. John; that the upper portion of the latter river, was merely a tributary; and that the immense Aroostook valley, is a mass of alluvial deposit, formed by its changing or receding waters. It is much to be regretted, therefore,—as we believe has been the case,—that the House of Assembly of New Brunswick, did not during their late sitting, appropriate an adequate sum for the minute examination of the space between the head of the Temiscouata lake, and the nearest river emptying into the St. Lawrence; as were a connection formed by means of a canal, vessels might proceed from Quebec with their cargoes and discharge them at St. John in the Bay of Fundy.—*Toronto Globe.*