

Pictou Apr 10, 1858,

My dear Sir

I received yours of the 2nd Inst, enclosing a parcel of coal, on Saturday evening, and have as requested made an assay of the coal, with the following result

Moisture	3.5
Other Volatile matter	35.9
Fixed Carbon	55.2
Ashes	3.4
	<hr/>
	100.00

This is the result of one trial with 100 grains; a repetition of the assay with larger quantities might give a more precisely accurate result. You will see that by this trial the yield of volatile combustible matter is below that of the Scots Cannel, but above that of the best Pictou coal, so that supposing the quality of the gas the same it would be well worth trying where our coal is used. The flame of the gas is not I think superior to that of Pictou coal. A small quantity of sulphur (as bisulphuret of Iron) is present; but I did not attempt to ascertain its amount. At a temperature suitable for

gas-making the coal is perfectly fused and a fine vesicular coke is produced. It resembles Pitou coke but burns more rapidly and does not smoulder and keep alive in its own ashes like the Pitou coke. The ashes are of a reddish brown colour; and the proportion of ashes is almost precisely that given by Johnston for Sydney coal. This coal in all respects very closely resembles that which I found, in the summer before last, at Little River, your specimen however has much less ashes. Should you bring specimens here, I can give it a further trial, but I think there would be little risk in sending a sample to the gas works for trial.

Gerner's discovery will not likely supersede coal. He makes however a good gas from bitumen, without any process of purification; and as bitumen yields much more gas than coal there is no doubt that it will prove a good and cheap material if it can be procured in sufficient quantity and at as low a rate as coal.

The bitumen of Shepody in New Brunswick is more likely to operate against gas coals than the new retort. It is a beautiful and pure material, richer I should suppose in gas than even Larnel.

and it can be used by the gas companies
in their present apparatus. I am told that
it occurs in a vein or pipe not in a bed.

I shall be most happy to see you
in May; and am very glad that you
have not lost sight of the Polaris Lake
Copper, which I hope will be the first
workable copper lode of Nova Scotia.

McNutt was here a few days since and
showed me specimens of a copper pyrites
from a new locality not far from his first
one. He is not much to be relied on
but I feel convinced that his specimens are
obtained from several small veins which he
says are very near to each other. Duncan
has discovered in Ferrish's mountain near
the Five Islands, a singular mixture of Mag-
netic Iron with sulphuret & oxide of copper.
He says there is abundance of it.

To the Honorable

Dr. H. M. Mearns

Sept 15/57

and it can be used by the gas companies
in their present apparatus. I am told that
it works in a room or office not in a bed
I shall be most happy to see you
again, and you may find that your
paper, which I hope will be the first
specimen of a paper paper
that you have been working on
is not much to be desired or
convinced that the specimen is
the one covered in your's mountain view
the fine paper, a singular mixture of clay
with fine with sufficient of oxide of copper.
The soap there is abundance of it.