

COPY OF LETTER FROM THE DIRECTOR OF MINES AND
REPORT BY EDGAR STANSFIELD

DEPARTMENT OF MINES
CANADA

OTTAWA, Jan. 17th, 1913

DEAR SIR,—

In conformity with your request of the 13th instant, the sample of carbonaceous scale was analyzed by Mr. Edgar Stansfield, our fuel testing chemist, and submitted by him to certain tests.

It seems to me that the formation of this scale could to a very large extent, be avoided by a mixture of the oil spray with air in such proportion as to ensure complete combustion.

I enclose Mr. Stansfield's report.

Yours very truly,

EUGENE HAANEL,
Director of Mines

JAMES OGILVIE, Esq.,
Asst. C.O.O., B.R.C.,
Ottawa.

[copy]

Report of Examination of Material from Inside of Fire Box of Oil Burning Locomotive. Sample received from Mr. J. Ogilvie, Operating Department, Board of Railway Commissioners for Canada

Analysis showed that the sample was a very hard, impure form of carbon, almost free from hydrocarbons. A proximate analysis carried out in the manner customary for coals, showed 88.8 per cent fixed carbon, 5.0 per cent volatile matter, 5.7 per cent ash, and 0.5 per cent water.

The sample was in the main combustible, but only burned with considerable difficulty. Small pieces heated in a quartz tube to the ignition point burned very readily in a current of oxygen, and continued to burn after the external heat was removed. If air was passed through the tube instead of oxygen the pieces tested burned slowly as long as the tube was kept hot, but combustion ceased when the external heating was discontinued.

A larger sample strongly heated in a blowpipe flame burned very slowly while the flame was actually impinging on it; when the flame was removed, the material appeared to cool as rapidly as it would have done had it been non-combustible.