

the inference, that it could also be advantageously employed for the manufacture of a good class of fire brick.

It should be stated that this material is readily accessible, and occurs in practically unlimited quantity.

An analysis of this clay, and further experiments in regard to its employment as a refractory material, will be carried out in the course of a contemplated early investigation bearing directly upon the subject of our fire-clays.

BITUMINOUS SAND-ROCK AND MINERAL-TAR OR MALTHA.

From the Athabasca or Elk River—North-west Territory. With ^{Bituminous sand-rock and mineral-tar from the North-west Territory.} reference to the geological position and general mode of occurrence of the above, Dr. R. Bell informs me:—

"That the deposit is of Cretaceous age, but rests directly upon limestone of the Devonian system. The bedding of the latter undulates gently, while the asphaltic sand lies in thick horizontal layers upon its surface, and in some cases fills fissures in the upper part of the limestone. The asphaltic matter has no doubt resulted from petroleum rising up out of the underlying Devonian rocks, in which evidence of its existence can be detected. In descending the Athabasca River it was first observed a few miles above the junction of the Clearwater branch, below which it becomes more conspicuous, forming the whole ^{Mode of occurrence.} banks of the stream, with the exception of a few feet of limestone at the base, for a distance of many miles. These banks are sometimes about one hundred and fifty feet in height, and frequently maintain an elevation of about one hundred feet for considerable distances. Except where they have been long exposed to the weather, they generally look as black as coal. A thick tar is often seen draining out of the deposit, and in numerous places on the ground at the foot of either bank, or on terraces lower than their summits, this tar collects in pools, or flows in sluggish streams to lower levels among the peaty materials in the woods. The surface of these accumulations of tar is usually covered with a hardened pitchy crust. The boatmen on the river break through this crust in order to collect the underlying tar which they boil down and use for pitching their craft. Some parts of the banks are rendered plastic *en masse* from being over-saturated with the asphalt, and in warm weather they slide gradually down into the bed of the river incorporating the boulders and pebbles in their course."

BITUMINOUS SAND-ROCK.

From the Athabasca River, about six miles below its confluence with the Clearwater. Collected by Dr. R. Bell. This specimen was compact ^{Bituminous sand-rock.}