

NOVA SCOTIA GOLD FIELDS.

MR. CAMPBELL'S REPORT.

Halifax, Nova Scotia, 25th February, 1863.

To the Honorable JOSEPH HOWE,

Provincial Secretary.

SIR,

I have the honor to submit, in accordance with your instructions, for the information of His Excellency the Lieutenant-Governor, the following report of a mineralogical exploration of certain districts in the eastern section of the Province, including the Cape North district in the Island of Cape Breton:

In my report of some explorations made during the autumn of 1861, in the Gold Fields on the southern or Atlantic coast of the Province, I endeavored to bring to notice, as prominently as possible, certain conditions of structure or arrangement of the rocks occupying the southern coast, which may serve as an excellent guide in the exploration of the country, if carefully observed. I deemed it important that this should be done, being fully impressed with the conviction that some knowledge of the geological structure of the country is necessary to the successful and rapid development of its mineral wealth; for no other point of its natural history is more intimately connected, with the formation and distribution of metalliferous veins and other mineral deposits, than the structure or peculiar arrangement of its strata. In all vertical sections hitherto made out across the rocks of the south or Atlantic coast of the Province, one line of elevation or anticlinal axis is represented, along the centre of a band of strata over thirty miles in breadth.

If this, in reality, been the stratigraphical arrangement in the south coast band, there would exist but a poor chance of many of its older strata being brought to the surface in lines of upheaval, along the north coast of the Province, where so great an accumulation of newer schistose rocks and carboniferous rocks has taken place; for such an arrangement as one line of elevation in such a broad band of strata, dipping at an angle of sixty degrees on an average, would necessarily imply a vertical thickness of ten miles, at least, of beds.

As it is, however, scarcely two miles, in vertical thickness, of beds are brought in section to the surface; for they are brought up in six different lines of elevation, or antilinal axis, instead of one.

By referring to the section appended to this report, it will be observed that the clay slate is superimposed on the quartzite as a distinct group, and not interstratified with it in occasional bands as is generally supposed.

The quartzite should be regarded, therefore, as a distinct group also, being the oldest and thickest group of stratified rocks in the Province.

Knowledge of these facts clears away much of the confusion in which the rocks of the south coast seem involved, and it renders exploration for gold, in every part of the Province, much easier and far more certain of success, since gold, in this country, appears to be mainly confined to the quartzite group, and to the lowest members of the clay slate group.

The line along which the section is made out, extends from the sea shore at the south-east entrance of Halifax Harbor, to the Renfrew Gold Field, a distance a little over thirty miles, intersecting, in that distance, no less than six great antilinal folds.