The Lower Carboniferous Rocks near Aberdour (Fife).

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ABSTRACT.

THE author gave a preliminary account of the results of a detailed examination, still in progress, of the district between North Queensferry and Kinghorn. In the district to the south of a fault which crosses the shore of the Firth of Forth near Rosyth and, passing in a somewhat easterly direction to the north of Inverkeithing, re-enters the Firth at Whitesand Bay, near Aberdour, the succession is as follows, and is in continuation of the rocks found on Inchcolm : (a) Lavas and tuffs of Charles Hill and Porthaven ; (b) limestones, shales, etc. (with marine fossils), of Braefoot Bay ; (c) Aberdour Sandstone ; (d) Teschenite Sill of Aberdour Obelisk ; (e) sandstone and shales ; (f) Teschenite Sill of Hall Craig and Braefoot ; (g) sandstones (and other rocks not exposed) ; (h) sill of Dalgety and Donibristle Bays ; (i) Dalgety Bay Sandstone, with an included band of limestone exposed at several localities ; (j) shales, sandstones, etc. (with marine fossils), of Fordell Railway and Seafeld Cottage ; (k) quartz-dolerite sill of Inverkeithing. The volcanic beds of St David's suggest a volcanic neck, but may possibly be intercalated with the surrounding sediments. The rocks are grouped round an anticlinal fold with a N.-S. axis, which can be traced across the Firth of Forth into Midlothian. Subsidiary parallel folds occupy the ground to the west of the main anticline.

In the ground to the north of the fault referred to above are some interesting volcanic deposits, including several lava flows, exposed along the railway east of Aberdour. They are intercalated among the sandstones and shales, and form one or more volcanic cones which pass laterally into ordinary sedimentary material. Associated with them are some shales containing a distinctly marine fauna, including *Productus* and other brachiopoda, cephalopods, etc.