

REPORT ON THE CROCODILE RIVER IRON DEPOSITS. By P. A. WAGNER. Geological Survey of the Union of South Africa, Memoir No. 17. pp. 65, with 12 plates and 5 figures. 1921.

THESE deposits of banded hæmatite ore are situated in the northern part of the Rustenburg district of the Transvaal, in a rather inaccessible district, 68 miles from the nearest railway. They lie immediately above the dolomite of the Transvaal System, and belong to the usual type of banded ironstone that is so common in many localities. They include red and black, black and grey, and dull-brown varieties, as well as calico-rock, and may be described as essentially banded ferruginous cherts with a varying proportion of iron oxide; the iron-content ranges from 16 to 44 per cent, but the silica is usually very high. It seems highly probable that when a railway is constructed these deposits will become of economic importance.

CORRESPONDENCE.

PALÆONTOLOGICAL ABSTRACTS.

SIR,—You allowed me in April, 1920, to draw attention to the alliance of the *Revue Critique de Paléozoologie* with the *Review of Geology*. May I remind your readers that the work of preparing or editing abstracts of all papers on fossil animals and plants is still carried on by M. Cossmann, and that he is particularly anxious to receive either author's abstracts or separate copies of all papers by British palæontologists.

Will those who respond to his request kindly note the new address: from November to May, 21 Rue Montpensier, Pau (B.-P.), France; from June to October, 2 Boulevard Sadi-Carnot, Engchien (S. & O.), France.

F. A. BATHER.

THE RAISED BEACH AT EASINGTON.

SIR,—Having had the privilege of examining the Durham coast-sections last summer under the guidance of Dr. Trechmann and Dr. Woolacott, I can thoroughly appreciate the importance of their discoveries among the Pleistocene deposits, which have introduced new factors into the complicated problems of the East British drifts.

On seeing the Raised Beach at Easington, discovered by Dr. Woolacott and discussed by him in your current (February) issue, I was immediately satisfied that it was an actual marine shore-deposit resting upon its original rock-shelf, and a later visit confirmed me in this opinion. But I saw in the same neighbourhood, and elsewhere in the county, other sandy and gravelly deposits, to which a marine origin has been assigned, that appeared to me to be all of the usual fluvio-glacial type, carrying no positive evidence of marine conditions and differing essentially from the Easington Beach.

Thus, while agreeing with Dr. Woolacott on the main point, I was unable to convince myself that any of the gravelly bands intercalated with the thicker drift to the northward and southward of the Raised Beach section were continuous with the beach, as he believes. Dr. Woolacott's section, Fig. 2 (p. 68), is, of course, diagrammatic, and expresses an interpretation of the evidence which may or may not be correct. As will be gathered from his photographs (Plate V), the investigation of the upper part of the cliff, except at the pathway, is dangerous, because of the rock-precipices below, and could not be safely accomplished without a rope; but at a few spots a little way northward, which we managed to reach while together, the gravels among the drift proved to be of the ordinary type, and lacked the distinctive characters of the beach-gravel.

Remembering that at both Sewerby and Speeton (Yorkshire) the marine beds at the base of the drifts are at the same level as stratified Glacial deposits of the immediate neighbourhood, but are separated from them by intervening bands of boulder-clay banked upon old slopes, I was perhaps predisposed to consider that this was the case also at Easington; and I saw nothing to contradict the idea. The comparatively thin drift overlying the Raised Beach was poorly exposed; and, so far as I could judge, it might be regarded as the feather-edge of the thicker masses to the north and south, which must obviously wedge out here upon the bare rock-slope of Beacon Hill (as shown in Fig. 1 of Dr. Woolacott's communication). The position of the patch of Raised Beach, close under the lee of the big ridge of Permian limestone forming Beacon Hill, was strongly reminiscent of the position of the Sewerby Beach, similarly sheltered from the impact of south-flowing ice by the Chalk ridge of Flamborough Head.

Far-transported pebbles are certainly more abundant in the Easington Beach than at Sewerby and Speeton; and it was pointed out to me that they include some of Cheviot origin, which are believed to denote a comparatively late-Glacial date for the deposit. Also the altitude of the beach raises another difficulty in its correlation with that of Sewerby. Yet there are many considerations which incline me to the opinion that this old sea-margin may have been in existence before the actual glaciation of the district; and I think that the suggested correlation of the beach-gravel with the wide-spread gravel among the boulder-clays has not yet been proven.

We may anticipate that Dr. Woolacott, with the stimulus of his present success, will sooner or later discover other indubitable traces of the beach in similar positions on this difficult coast. Meanwhile it may be well to suspend judgment as to the position of the deposit in the Glacial succession.

G. W. LAMPLUGH.

ST. ALBANS.

10th February, 1922.
